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University of Toronto

President's Report

For the Year ending
30th June, 1914

1913/14

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PRESIDENT'S REPORT

1913-14

To the Governors of the University of Toronto:—

GENTLEMEN,—I beg to submit the following report on the academic work of the University and University College during the twelve months ended June 30th, 1914.

The total staff of the University and University College numbered 401, of whom 49 were professors, 59 associate-professors, 14 assistant-professors, 82 lecturers and associates (in Medicine), and 197 demonstrators, fellows and instructors with sessional appointments. They were distributed as follows:

—	Professors.	Associate Professors.	Assistant Professors.	Associates.	Lecturers.	Other Sessional Appointments.
University (Faculty of Arts)....	17	16	6	.....	16	69
University College	7	11	2	.....	10 (1 in Univ.)	2
Faculty of Medicine.....	15	23	.....	15	2	81
Faculty of Applied Science.....	8	5	5	.....	17	37
Faculty of Household Science...	.....	2	.....	.....	1	5
Faculty of Forestry.....	1	.....	(1 in Univ.)	.....	2 (1 in Univ.)	.....
			Chief Instructors.	Assistant Instructors.		
Faculty of Education	1	2	5	14	.....	3

In Victoria College there were:

Professors (one in University)	10
Associate Professors	6
Lecturers	6
Sessional Appointments	2

In Trinity College there were:

Professors	9
Lecturers	8
Reader	1
Sessional Appointment	1

In St. Michael's College there were:

Professors	9

Though Dean Galbraith's death occurred shortly after the close of the academic year I cannot allow this report to be issued without a reference to the severe loss that the University has thereby sustained. Dr. Galbraith graduated in Arts in

1868, became Principal of the School of Practical Science in 1889, and Dean of the Faculty of Applied Science in 1906. That faculty bears the impress of his mind and character. To its creation and development he devoted energies that would have brought him large emoluments as an engineer, and he found the reward of his work not in a high salary or rich material returns, but in the faculty as it now stands, and the unique regard for himself cherished by its graduates. A broadly educated engineer, holding well the balance between theory and practice, Dr. John Galbraith built up a native school of engineering that is rooted deeply in the life of this province.

Dr. McCurdy asked leave to retire from the active duties of the headship of the Department of Orientals in University College, which he had held for twenty-six years. Dr. McCurdy stands among the foremost Semitic scholars on this continent, and besides being an excellent teacher and gathering round him a following of competent pupils, he has brought distinction to the University by the quality and number of his published works.

Dr. Reeve, who a few years ago retired from the Deanship of the Faculty, asked leave to resign the professorship of Ophthalmology, which he held for twenty-seven years. Few men in the history of the University have given a more ungrudging service than Dr. Reeve has rendered to his Alma Mater, and he was surpassed by none in his endeavours to raise the standards of a faculty with the development of which his name will always be associated.

Dr. McDonagh also asked to be allowed to resign his teaching position after eighteen years of valuable work for which his University owes him sincere thanks.

The following gentlemen also resigned their positions:

Dr. E. Jones, Associate Professor of Psychiatry; Dr. H. T. J. Coleman, Associate Professor of Education to become Dean of the Faculty of Education in Queen's University; and W. E. Macpherson, B.A., Lecturer in Methods in History in the Faculty of Education to become professor in the Faculty of Education in Queen's University.

Leave of absence for the year was granted to Dr. P. Toews on account of illness; for the spring term, 1914, to Professor G. M. Wrong; for the year to Mr. A. W. McConnell to study abroad; and was continued for the year to Professor A. Kirschmann.

Following the practice of many other Universities, which have found it a very useful grade, the position of Assistant-professor was created at the beginning of the year.

The following promotions and new appointments were made during the year:

In the Faculty of Arts, P. W. Mueller, B.A., was promoted from a Lectureship to an Associate-Professorship in German; C. D. Howe, M.A., Ph.D. (Chicago), was promoted from a Lectureship to an Assistant-Professorship in Botany and Forestry; G. T. Northup, B.A., Ph.D. (Chicago), was promoted from a Lectureship to an Assistant-Professorship in Italian and Spanish; A. L. Parsons, B.A. (New York), was promoted from a Lectureship to an Assistant-Professorship in Mineralogy; T. R. Robinson, Ph.D., was promoted from a Lectureship to an Assistant-Professorship in Philosophy; G. O. Smith, M.A. (Oxon), was promoted from a Lectureship to an Assistant-Professorship in Latin; W. G. Smith, B.A., was promoted from a Lectureship to an Assistant-Professorship in Psychology; P. Toews, M.A., Ph.D. (Heidelberg), was promoted from a Lectureship to an Assistant-Professorship in German; E. M. Walker, B.A., M.B., was promoted from a Lectureship to an Assistant-Professorship in Zoology; C. N. Cochrane, B.A. (Oxon), was

appointed Lecturer in Greek; F. C. A. Jeanneret, B.A., Lecturer in French; G. Kartzke, Ph.D. (Berlin), Lecturer in German; Miss C. Maclachan, M.A., Lecturer in English; G. R. Mines, M.A. (Cantab), Lecturer in Physiolgoy; I. R. Pounder, B.A., Lecturer in Mathematics; B. Tapper, B.A. (Iowa State College), Lecturer in German; and W. R. Taylor, Ph.D., Lecturer in Oriental Languages.

In the Faculty of Medicine, G. Boyd, B.A., M.B., was promoted from an Associateship to an Associate-Professorship in Oto-Laryngology; F. W. Marlow, M.D., C.M., was promoted from an Associateship to an Associate-Professorship in Gynæcology; J. G. Fitzgerald, M.B., was appointed Associate-Professor of Hygiene. The following were promoted from Demonstratorships to Associateships in Surgery and Clinical Surgery; W. W. Jones, B.A., M.B.; W. J. O. Malloch, B.A., M.B.; E. S. Ryerson, M.D., C.M.; W. A. Scott, B.A., M.B., and G. Silverthorn, M.B.

In the Faculty of Applied Science, E. G. R. Ardagh, B.A.Sc., was promoted from a Lectureship to an Assistant-Professorship in Applied Chemistry; M. C. Boswell, M.A., Ph.D., was promoted from a Lectureship to an Assistant-Professorship in Organic Chemistry; J. R. Cockburn, B.A.Sc., was promoted from a Lectureship to an Assistant-Professorship in Descriptive Geometry; W. M. Treadgold, B.A., was promoted from a Lectureship to an Assistant-Professorship in Surveying; C. R. Young, B.A.Sc., was promoted from a Lectureship to an Assistant-Professorship in Applied Mechanics; F. C. Dyer, B.A.Sc., was promoted from a Demonstratorship to a Lectureship in Mining Engineering; R. H. Hopkins, B.A.Sc., and A. R. Zimmer, B.A.Sc., were promoted from Demonstratorships to Lectureships in Electrical Engineering.

In the Faculty of Education, P. Sandiford, M.Sc. (Manchester), Ph.D. (Columbia), was appointed Associate Professor of Education; H. G. Manning, B.A., Assistant Instructor in the University Schools; and J. B. Wallace, B.A., Assistant Instructor in the University Schools.

Under the Medical Research Fund, Dr. William Goldie was appointed Director of the Medical Clinic of the Out-patient Department of the Toronto General Hospital; and Dr. A. H. Caulfeild, Dr. N. C. Sharpe, and Dr. K. M. B. Simon were appointed Fellows.

The following members of the staff delivered courses at Trinity College:
A. F. Coventry, B.A., Lecturer in Biology.
N. Di Pietro, Litt.D., Instructor in Italian and Spanish.
G. E. Jackson, B.A., Lecturer in Political Science.
E. J. Kylie, B.A., Associate Professor of Modern History.
G. I. H. Lloyd, M.A., Associate Professor of Political Science.
M. A. Mackenzie, M.A., Associate Professor of Mathematics.
Miss H. MacMurchie, B.A., Fellow in History.
Vincent Massey, B.A., Special Lecturer on History.
G. T. Northup, Ph.D., Assistant Professor in Italian.
T. R. Robinson, Ph.D., Assistant Professor in Philosophy.
George Smith, B.A., Lecturer in Modern History.
W. S. Wallace, B.A., Special Lecturer in History.
R. H. Williams, B.A., Lecturer in History.
G. M. Wrong, M.A., Professor of Modern History.

The total number of students registered in the University in 1913-14 was 4,234, distributed as follows:—

Faculty of Arts	2,574
Faculty of Medicine	623
Faculty of Applied Science	627
Faculty of Household Science	91
Faculty of Education	320
Faculty of Forestry	51
Registered in two Faculties	52

The figures may be further analyzed as follows:

Faculty of Arts.

University of Toronto.

Candidates for Ph.D.	28	
Candidates for M.A.	96	
Occasional Arts Students	18	
Dental Students	88	
In the Summer Session	338	
Veterinary Students	189	
		757

University College.

First Year Undergraduates	308	
Second Year Undergraduates	230	
Third Year Undergraduates	188	
Fourth Year Undergraduates	202	
Occasional Students	99	
		1027

Victoria College.

First Year Undergraduates	179	
Second Year Undergraduates	119	
Third Year Undergraduates	95	
Fourth Year Undergraduates	79	
Occasional Students	60	
		532

Trinity College.

First Year Undergraduates	48	
Second Year Undergraduates	25	
Third Year Undergraduates	34	
Fourth Year Undergraduates	25	
Occasional Students	12	
		144

St. Michael's College.

First Year Undergraduates	49	
Second Year Undergraduates	24	
Third Year Undergraduates	31	
Fourth Year Undergraduates	9	
Occasional Student	1	
		114

FACULTY OF MEDICINE.

First Year Undergraduates	135	
Second Year Undergraduates	100	
Third Year Undergraduates	118	
Fourth Year Undergraduates	112	
Fifth Year Undergraduates	89	
Dental Students	59	
Occasional Students	10	
		623

FACULTY OF APPLIED SCIENCE.

First Year Undergraduates	144	
Second Year Undergraduates	142	
Third Year Undergraduates	179	
Fourth Year Undergraduates	161	
Occasional Student	1	
		627

FACULTY OF HOUSEHOLD SCIENCE.

Occasional Students	78	
Department of Education Students	13	
		91

FACULTY OF EDUCATION.

Students registered	320

FACULTY OF FORESTRY.

First Year Undergraduates	21	
Second Year Undergraduates	11	
Third Year Undergraduates	8	
Fourth Year Undergraduates	7	
Fifth Year Undergraduates	1	
Sixth Year Undergraduates	1	
Occasional Students	2	
		51

Of the 4,234 students, 3,054 were men, and 1,180 were women. The women students were distributed as follows:

Candidates for Ph.D.	3
Candidates for M.A.	18
Occasional Students in the University of Toronto	8
Dental Student	1
Summer Session	231
University College	367
Victoria College	144
Trinity College	61
St. Michael's College	29
Faculty of Medicine	24
Faculty of Household Science	91
Faculty of Education	203
	——1180

The numbers examined in the different departments of the University were as follows:—

Ph.D.	2
M.A.	51
Arts:	
Fourth Year	365
Third Year	466
Second Year	659
First Year	574
Senior Matriculation	260
	——2324
Medicine:	
Fifth Year	86
Fourth Year	110
Third Year	118
Second Year	87
First Year	115
	—— 516
Applied Science:	
Professional Degrees	6
Fourth Year	159
Third Year	170
Second Year	135
First Year	141
	—— 611
Education	291
Forestry	46
Household Science	14
Law	41

Degrees in Pedagogy	9
Pharmacy	37
Music	10
Dentistry	172
Agriculture	52
Local Examinations in Music	713
Veterinary Science	16

The degrees conferred were:

LL.D. (Honorary)	12
D.Sc. (Honorary)	2
Ph.D.	1
M.A.	43
LL.B.	9
M.D.	3
M.D., C.M.	1
D.P.H.	4
M.B.	86
B.A.	296
C.E.	4
E.E.	1
M.A.Sc.	1
B.A.Sc.	150
D.Pæd.	1
D.D.S.	47
B.S.A.	43
B.Sc.F.	7
Phm.B.	35
D.V.S.	1
B.V.S.	9
Mus. Bac.	2
	762

Lectures were delivered by Sir Rickman Godlee, Bart., LL.D., F.R.S., on "The Work of Lord Lister"; by Mr. F. R. Benson, of the Stratford-on-Avon Players, on "Shakespeare—A World Force"; by Sir George Paish, editor of *The Statist,* on "Canada and the Financial Situation"; by Mr. Frederick Lessore, on "Portraiture and Sculpture"; by Hon. W. H. Taft, on "Popular Government"; by Professor E. von Dobschütz, of Halle, Germany, Exchange Professor at Harvard University, on "Hellenism and Christianity"; by Professor W. Max Müller, of the Department of Egyptology, University of Pennsylvania, on "Egypt of the Time of the Pyramids"; by Lt.-Col. Sir William Boog Leishman, F.R.S., Professor of Pathology in the Royal Army Medical College, London, England, on "Medical Research"; by Mr. Laurence Irving, on "The Drama as a Factor in Social Progress"; by Mr. Frank Alval Parsons, M.A., a Professor in New York University, on "The Influence of Historic Periods on Modern Home Life"; and by Dr. Gustav Monod, of Paris, France, on "Facilities for Post-graduate Work in Paris."

The course of Saturday lectures, arranged as in former years by Professor Mavor, was as follows:

Professor Healey Willan,
"Irish Folk-Song."
Principal Hutton,
"The Wit and Wisdom of Herodotus."
C. C. James, C.M.G.,
"The Romance of Agriculture."
Professor R. Davidson,
"Mohammed."
Professor W. A. Parks,
"The Building Stones of Eastern Canada."
Professor I. Benzinger,
"Life in Palestine, Past and Present."
Professor T. Stannage Boyle,
"Dean Swift."

The second successful series of Organ Recitals, under the direction of Mr. F. A. Mouré, was given fortnightly in the Michaelmas Term and weekly during the Easter Term. At the fifteen recitals of this series upwards of one hundred compositions have been played, no numbers being repeated. Sixty-six composers have been represented on the programmes. The following musicians took part in these recitals: Mr. F. A. Mouré, Bursar of the University of Toronto; Mr. E. C. Macmillan, Mus. Bac. (Oxon); Mr. G. H. Knight, Mus. Bac. (Manchester); Mr. Otto James; Mr. E. R. Bowles; Mr. T. J. Palmer, A.R.C.O.; Mr. Fritz Thiele, Toronto; Mr. J. E. P. Aldous, B.A. (Cantab); Mr. C. E. B. Price, A.R.C.O., Hamilton; Mr. F. C. Thomas, A.R.C.O., Brantford; Mr. J. A. Bernier, Quebec; Dr. H. Sanders, Ottawa; Mr. J. H. Shearer, A.R.C.O., Montreal; and Mr. C. E. Wheeler, F.C.G.O., London.

The revision of the General Course in Arts was completed during the past session, the main principles which were kept in view being a reduction in the number of subjects and a more intensive study of languages in the first two years of the curriculum. Two options in the four fundamental sciences are allowed in the second year, so that the students may be distributed over several laboratories thus effecting a relief on the pressure which has been constantly growing by reason of the large pass classes of the first and second years. In order to avoid difficulties in the time table, which has now become very complicated, the whole course goes into effect at once, at the beginning of the session 1914-15. It is hoped that this new General Course, which is being taken by large numbers of undergraduates, will be found to offer a better general education than that which has been hitherto provided.

In admitting undergraduates to Arts, greater strictness has been observed since it has been found by experience that it is, as a rule, the opposite of a kindness to allow a student to enter ill prepared upon University lectures. Only in the case of those who are too old to be sent back to school is discretion exercised in admitting to the first year with more than three papers wanting, and they are thereby given the chance of entering the second year through Senior Matriculation. Maturity may claim a privilege, as indeed it introduces a new element. The authorities of the constituent colleges also have been exercising a more exact supervision of their students. There has been a stiffening of standards, and the undergraduate is not allowed to carry failures of an earlier year beyond the session next following.

The Honour courses are to be revised during the session 1914-15, and after this revision is completed I hope there may be a rest from recasting the curriculum. It will be necessary at the same time to revise our agreement with the Education Department in respect of specialist certificates, a matter of great importance both to the University and to the Education Department, and of no little difficulty, inasmuch as the Education Department has in mind the requirements of the schools of the Province and the University considers the matter from the point of view of a thorough education in the honour subjects. However, it should be possible to harmonise these two points of view.

I wish to call attention to the first report of the Medical Research Fund, which is appended. It sets forth both the principles aimed at and a summary of the results so far attained, and is, I believe, a promising beginning of a most important development in the University. There have been four Fellows working in the Department of Chemical Pathology: Dr. C. G. Imrie, Dr. Fletcher McPhedran, Dr. N. C. Sharpe, and Dr. K. M. B. Simon. Already two creditable papers have been prepared for the press, reports of which were read at the meeting of the Association of American Pathologists and Bacteriologists, held in Toronto last spring. In Pathology, Dr. Caulfeild and Dr. R. G. Armour have conducted investigations, the former to demonstrate, if possible, under what biological conditions infection to tuberculosis takes place; the latter to acquire the necessary technical facility in the use of special methods of histological study of the central nervous system. Dr. Goldie has conducted investigations in the Out-patient Department of the Toronto General Hospital dealing with the interpretation of symptoms.

An interesting addition to the Medical Department was made by the equipment of a laboratory for the manufacture of Biological Products, Diphtheria Antitoxin, Rabies Vaccine (Pasteur treatment), Tetanus Antitoxin and Antimeningitis Serum, under Dr. J. G. Fitzgerald, whose experience in Harvard and California fitted him well for commencing similar work in Toronto. The fundamental idea underlying the project was the production of all sera and vaccines of value in public health work and their distribution at cost. It was expected that the active co-operation of public health authorities in Canada would be obtained, and this has, in large measure, been realized. When the manufacture of these products has been got under way the Hygiene Laboratory in which the remedies are prepared will be used extensively for research purposes along similar lines.

In the Faculty of Applied Science the new course of Highway Engineering has been extended. " The laboratory equipment now is such that with comparatively few additions a student will be able to carry out a very thorough series of investigations into the properties of metals, bitumens, and other materials employed in highway construction."

Under Mr. Keele instruction was again given in Ceramics, and a beginning has been made in supplying trained men for one of the largest industries of the Dominion. In this direction we may look for extension in the future.

The work of the Extension Committee has been assuming large proportions by reason of the change that was referred to in my last report, in which I called attention to the fact that in conjunction with the Department of Education, classes are provided in the summer for those who are intending to enter the Normal Schools and the Faculty of Education. This has meant a complete change in the character of the work that has hitherto been attempted in the Summer Session, and it is conducted under the Faculty of Education. Meantime, no classes are being given in the Faculty of Arts. It would seem, however, that there should be some use made

of the laboratories and the library of the University in the summer by teachers and others who wish to take advanced courses. If it were possible for the teachers to turn these courses to financial advantage in their schools I believe that we should find applicants for what we might offer, but hitherto the University has not met with much response as far as what it offered in Arts was concerned.

For some time representations have been made by different social and philanthropic agencies to provide courses of instruction and training for persons who wished to undertake work of this character. The number of such persons is increasing, and the rapid growth of immigration into Canada is forcing new and varied problems upon our attention. Hitherto the only training provided has been in institutions of the United States. It is gratifying that those who are interested in these problems look to the University for help, recognizing that the best and most permanent results can only come from a discipline in which economics, ethics, psychology and hygiene, which lie at the basis of so many social problems, are studied with academic exactness. Other Universities, such as Leeds, Liverpool, Birmingham, Sheffield, and Glasgow in Britain, and Columbia, Harvard and Chicago, to mention a few of those in the United States, have recognized that a place should be found for such training either directly in the University or in an institution to which they give their sanction. To meet the demand and following the example of other Universities, the Board of Governors and Senate authorized the launching of similar courses in Toronto for the coming year, basing them on practical teaching in economics, ethics, psychology and hygiene by professors of the University, and for the field work and practical training accepting the services of social workers in the city. The courses include charity organization, probation, child welfare, recreation, hospital social service, and settlement work. Through the generosity of a Toronto lady, the salary for a director of these courses was provided, and they are to be inaugurated at the beginning of the session 1914-15.

After many years spent in accumulating material and in planning the construction of the building, the Royal Ontario Museum was formally opened by His Royal Highness the Duke of Connaught, in March, 1914. The building was erected and is maintained by the Province and the University on equal partnership, and the University has handed over to the joint Board of Trustees its chief collections in Geology, Palæontology, Mineralogy, Archæology and Canadian Natural History, which in these new quarters will be used by the advanced students and at the same time be displayed where they can be seen by the public. Smaller and special collections are retained in the laboratories for purely teaching purposes. These splendid collections are for the most part due to benefactions of citizens of Toronto, who have contributed at various times gifts amounting in value to nearly $300,000. Experts who have visited the Museum since its opening have remarked upon the extent of the collections, the value of the contents, and the beauty of the exhibits. In the cities of the old world museums are among the important means of education, and the intelligence of a city may be in some degree measured by the variety and quality of such institutions. The opening of this wing is, therefore, important as indicating that the province and city are provided with a new source of intellectual and artistic development.

In August, 1913, the Twelfth International Geological Congress met in Toronto on the invitation of the Dominion and Provincial Governments and the Universities of Canada. The buildings of the University were placed at the disposal of the Congress, and the professors of the departments of Geology and Mineralogy took a prominent share in its conduct. The Congress itself was most successful, and by

means of the excursions that preceded and followed it the scientific progress and the mineral development of Canada have both been materially served. In recognition of the occasion the honorary degree of Doctor of Laws was conferred on these representative delegates:

Aubrey Strahan, London, England.
P. M. Termier, Paris, France.
T. C. Chamberlain, University of Chicago.
R. Beck, Freiberg, Germany.
J. J. Sederholm, Finland.
T. Tshernyschew, Russia.
W. G. Miller, Provincial Geologist of Ontario.

I must again refer to the building situation in the University, which is becoming rapidly more acute. For several years I have drawn attention to these needs, but it is only the recurrent necessity for finding new space in the already overcrowded buildings and constant complaints from those who are called upon to work in altogether inadequate conditions that enable one to realize how urgent is the need for more accommodation.

The Principal of University College again refers to the need of more room. At the opening of each session it is difficult to get space for the large classes in a building which houses not only the eleven hundred students of University College, but the administrative offices of the whole University. There should be a University building for history, economics, philosophy and social science in order to relieve the pressure on the main building. Also University College should be provided with a residence for its own students in immediate proximity to the main building. This would add to its character, and not leave it at a serious disadvantage as compared with Victoria and Trinity Colleges, which, I am glad to say, have or will have excellent residential quarters for their men and enjoy a collegiate atmosphere which adds immensely to their educative power, but which University College cannot hope to possess until it is equally well equipped.

I will again quote from the Professor of Electrical Engineering: "In the main machine laboratory there is often a choice between preventing the students from getting access to fresh air by opening windows and injury to valuable machinery by sand blown from the road over a window sill scarcely above the ground. A passage which is partly a tunnel, economically made out of one side of an extinct coal hole and which is the approach mostly used to our principal machine laboratories, continues to admit mud and water during wet weather despite the efforts of the architect. To come to matters of more importance, the case of the study room for the fourth year may be mentioned. Last year, as mentioned in my report, students complained of the alternative between foul air and catching cold by drafts. At that time there were twenty-three, now there are thirty-six in the same room, which is only 24 x 48. The room is much too crowded, and the men themselves complain of the noise and its interference with their work. This is one of the conditions which made it impossible to arrange for this class work to be given as an option in Mechanical Engineering, as the Council proposed."

The Professor of Anatomy again reports that the work of the department is at all times greatly hampered by lack of space and of the facilities which the modern methods of teaching anatomy demand.

In Forestry the need of space was so urgent that it was resolved to secure tem-

porary relief by converting an old stable into a laboratory, but the financial stress has interfered even with this plan.

In the Faculty of Education and the University Schools the demand for a gymnasium for the boys and teachers-in-training is even more insistent than last year, and a residence for women students in the Faculty of Education should be provided.

If there is to be any development in Industrial Chemistry and Ceramics it will be necessary to put an upper floor in the large wing of the Chemistry and Mining Building, which was formerly occupied as a museum for Mineralogy and Geology. With the revival of industry that will be likely to follow on the close of the war it is altogether probable that there will be a demand throughout this manufacturing Province of Ontario for an extension of industrial training, so that Technology will have to be added to Engineering as in the great Universities of Leeds, Birmingham, and Manchester, but such an extension is out of the question unless a University building is provided.

I cannot close this report without again referring to the seriousness of the financial situation. As a result of the war, we shall, of course, be called upon to mark time, but at its close such new conditions will have emerged we hope that the University may also be expected to move forward. We cannot afford to lag behind the other State Universities of this continent nor to tell our students that they must cross the border in order to get the highest academic training.

One result of the war will be, as far as one can judge, that the American universities will be thrown on their own resources and will develop rapidly. It is altogether probable that for some years to come few of their students will go to Germany to study, that the influence of many of the leading American professors, who for some years have been complaining that they had been over Germanised, will have its effect, and that the Americans, having learned method from Germany, will develop more and more their own learning and science at home. I believe, therefore, that there will be greater inducements in the not distant future held out by American universities to many of our students, who formerly went to Europe, to take their postgraduate work in the United States. There is, of course, much to be said in favour of this, but whereas nearly all our graduates, who formerly went to Europe returned to Canada, a very large proportion of those who go to the United States find permanent employment across the border. Such emigration is very costly, as we know from experience. We must, therefore, provide graduate work for our Ontario and Canadian students in our own institutions. Only a portion of our graduates in any case are able to go abroad. The rest we educate at home, and Toronto especially should draw graduates from the other provinces of the Dominion. With the heightened national spirit that is bound to come with renewed material prosperity, Canada must be prepared, unless she is to lose her self-respect, to provide the most advanced kind of academic training for her own people. During the past decade we have been strengthening undergraduate work, and if we can get rid of the school standards of the first year General Course this undergraduate work will be fairly well provided for. We are nearly ready for a further step. If it does not come soon the University will lag behind her neighbors. In the United States the university is becoming a potent influence. Its extraordinary power in Germany, albeit towards a perverted ideal, is only too well known. We may expect, therefore, that in Canada also it will play a large part in the future. It will supply men who will speak with authority to a wide public not only on matters of medicine, engineering, and industrial science, but on historical, economic,

and social problems. There should be also a place for the scholar who will set standards of taste for the people. High as is the general average in our undergraduate and honour courses, we need the distinction of the few who tower above the ordinary range. The great scholar or scientist is rare, but the University must set about to discover among its students him who may become such and save him for his country. Such advanced work is costly, but without it we shall have the chagrin of watching our neighbors shoot past us, and we shall have to be content with obtaining from them such trained teachers as they can spare us.

All of which is respectfully submitted.

R. A. Falconer,
President.

November 12th, 1914.

APPENDIX A.

(1) Report of the Principal of University College.
(2) Report of the Dean of the Faculty of Medicine.
(3) Report of the Dean of the Faculty of Applied Science.
(4) Report of the Dean of the Faculty of Forestry.
(5) Report of the Dean of the Faculty of Education.
(6) Report of the Librarian.
(7) Report on University Extension Work.
(8) Statement regarding the Biological Museum.
(9) Statement regarding the Geological Museum.
(10) Statement regarding the Palæontological Museum.
(11) Statement regarding the Mineralogical Museum.
(12) Report on Medical Research Fund.
(13) Report of the Director of Laboratory for manufacture of Biological Products.
(14) Reports from Biological Stations.
(15) Report of the Physical Director.
(16) Report of the Superintendent of the Dining Hall.

(1) Report of the Principal of University College. (Professor Hutton.)

The session 1913-14 has been marked by normal progress: the temporary loss of Professor Toews, through sickness, has been met by the addition to the staff of Messrs. Kartzke and Tapper: Herr Kartzke comes to us from Berlin with the consent of the Prussian Ministry of Education, as an exchange Professor: Mr. Tapper is also of German origin, though coming to us immediately from Chicago. The work of each has been excellent and the simultaneous loss to the department of Professors Vander Smissen and Toews has been faced with a measure of success which could hardly have been anticipated beforehand.

The need for more lecture rooms in the College or main building and the intrusion into the special precincts of the College of the Registrar's and Bursar's departments has engaged continuously the attention of the College Council, no less than of the President of the University. The President has already under consideration an expansion on the south-west face of the College, which, however the details work out, should relieve both College and University: and at the same time furnish the College with a residence closely adjoining the historic residence, but without its drawbacks of insufficient space and accommodation.

(2) Report of the Dean of the Faculty of Medicine. (Dr. C. K. Clarke.)

This year has been, in many respects, an important one, as it saw the full development of a great teaching hospital where students received advantage in medical education, not usually obtainable. It has made possible the proper development of the fifth year, which should, of course, be, as far as possible, a period devoted to the practical side. The result has been that this year's class has gone out much better equipped in the way of practical knowledge than any of its predecessors.

There is still some criticism of the third year course, which seems to cause the student more worry and produce more failures than any other. It is difficult to explain this, although it seems as if the student, finding himself between the Scylla of primary work and the Charybdis of final study, comes to grief through an ill defined idea of the best course to steer. Possibly we have laid too much stress on the importance of the clinical subjects and have exacted too much. In view of these difficulties it has been decided to do away with all written examinations in Medicine and Surgery in the third year.

Several changes have taken place in the Faculty, the most notable one being caused by the resignation of Dr. R. A. Reeve, who has been identified with the School for forty-one years, and who was Dean from the development of the University of Toronto Medical Faculty until 1908, a period of more than twelve years. Dr. Reeve's success as a teacher is well known to the thousands of medical students whose regard for Dean Reeve is deep and sincere—indeed, no one in connection with the Faculty has merited and received such affection as the worthy ex-Dean. Dr. Reeve was devoted to the interests of the University, and through his untiring efforts the Faculty of Medicine rose to the eminence it now has. But his efforts were not confined to narrow lines, and it was very largely through his efforts that the present Convocation Hall came into existence.

On the whole the work of the year has been characterized by a steady advance.

(3) Report of the Dean of the Faculty of Applied Science. (Dr. Galbraith.)

The following list gives the enrolment per session since 1906:

1906-7	621
1907-8	720
1908-9	754
1909-10	725
1910-11	770
1911-12	793
1912-13	681
1913-14	626

A reasonable estimate for 1914-15 would be 556.

The following statistics relating to graduates cover the period to and including 1913:

Total graduates	1,435	
Deceased	52	
	1,383	
Of these there are in Canada	1,218	88.07%
" " United States	141	10.11%
" " other countries	24	1.82%
	1,383	100.00%

Arrangements should be completed and the plans drawn for the construction of a floor in the east end of the Chemistry and Mining Building and for the subdivision of the space into rooms with proper flues, drainage, etc. It is probably too late to have this work done during the present summer—it should be done at the latest during the summer of 1915, between May 1st and September 15th, so as not to interfere with the work of instruction.

Mr. Jos. Keele, of the Geological Survey, will probably be allowed to continue his work here for another session—advantage should be taken of his presence to obtain useful suggestions for the accommodation of the proposed Ceramic Laboratory. This is an additional reason why the above plans should be put under way without delay.

During the present summer the lighting of the drafting rooms should be improved. That of the second year drafting room behind Convocation Hall is particularly bad. As mentioned in the report of the department of drafting there are a great many cases of eye-strain among the students, due to this cause.

This is a favorable time to assemble the information which the architect will require for the preparation of the plans for the new building schemes indicated in various parts of this report. If delayed too long these drawings may have to be prepared in haste and without due consideration.

I would suggest as a means of initiating these plans, that the President call a special meeting of the members of the staff interested, and discuss the situation with them.

The maximum number of students to be provided for immediately and the provisions for extension of buildings in the future are among the questions to be discussed.

(4) Report of the Dean of the Faculty of Forestry. (Dr. B. E. Fernow.)

The registration for the year 1913-14 has been the largest since the establishment of the Faculty, the newly entering class numbering 23 and the total registration 51. This is a growth of nearly 100 per cent., since by graduation and other discontinuance the number at the end of the last session had been reduced to 28.

The demand for graduates for permanent positions, and for undergraduates for summer work, during the last season was almost as insistent as the previous year, deficiencies having to be made up by importations from the United States. The present year's graduates (seven in all) have found ready employment, and so have the members of the two lower classes and some of the first year men.

No changes in the curriculum nor in standards have taken place, except that the entrance requirements have been slightly changed to harmonize with those of the Faculty of Arts.

A few lectures by authorities from the practical field were given, namely, on logging, by Mr. Asa S. Williams, Manager of the Logging Department of the Allis-Chalmers-Bullock Company; on trail and telephone building, and other methods of protection against fire, by Mr. W. N. Millar, District Inspector of Dominion Forest Reserves; and on diseases of trees, by Dr. H. von Schrenk, Timber Expert.

The Foresters' Club has continued its useful career, having had speakers from outside at several of its meetings. It has also compiled and printed a useful booklet on the "Silvical Characteristics of Canadian Trees."

With the growth of the Faculty and the growing requirements of a more complete professional education, the need for increased quarters and increased appropriations for staff and apparatus becomes more urgent, and it is hoped that in another

year these requirements can be met. The leading forestry schools of the United States employ from four to seven instructors as against the equivalent of three in this Faculty. This small staff, taken together with the short session, increases the burden on the instructors to the breaking point.

The need of increased laboratory space and lecture rooms has naturally increased with the number of students, and will increase from now on. It should be provided for without delay. The permanent camp for practical instruction in the field also remains a wish.

(5) Report of the Dean of the Faculty of Education. (Dr. W. Pakenham.)

It is the opinion of the staff that the year just closed has been unusually successful. The chief explanation lies in the adoption of the semester plan of instruction. The expansion in the curricula of modern school systems has laid a great burden upon both students and instructors in training schools. It is still necessary to train all teachers in all subjects. By dividing the session into terms, limiting each term's work to one-half the subjects, and conducting final examinations at the end of each term the burden has been very much lightened.

The School has continued to prosper. It now has 4,300 subscribers, and has carried thirty-two pages of advertising matter throughout the year. For its success great credit is due the business manager, Mr. Dunlop, and the members of the staff who have given time and thought without stint to each monthly issue.

The question of a gymnasium and an assembly hall for the University Schools and the allied question of residences for women students of the Faculty of Education still press for consideration. The influence of accommodations and equipment upon attendance in the Schools is obvious. Just as obvious would be the severity of the blow if the attendance in the Schools should shrink. And while the University is providing residences for students, she cannot overlook the fact that no students need the residential life more than the prospective women teachers of Ontario.

With the end of the session, Dr. Embree, the Senior Principal of the Toronto High Schools, retired from office in the city schools and from his post as one of the supervisors of practice-teaching in this Faculty. Dr. Embree's services to secondary education in this city and province have been long and distinguished. His services to this Faculty in the difficult days of its youth have earned the gratitude of the University. Into his retirement he takes the respect and affection of all his former colleagues.

(6) Report of the Librarian. (H. H. Langton, Esq., M.A.)

The number of bound volumes added to the Library during the year ending 30th June is 4,815, and the number of pamphlets 3,430, making the total contents of the Library 138,658 bound volumes and 46,648 pamphlets.

The statistics of the use of the books by students, as compared with the two previous years, are as follows:

——	1911–12	1912–13	1913–14
No. of day tickets	32,928	35,903	33,656
No. of books taken for the night	10,816	12,707	12,383
Average number of readers at any one time	85	84	91

During the year most of the remaining duplicates, resulting from the addition to the shelves of the Goldwin Smith Library, were distributed among the Departmental Libraries and lent to the Libraries of the affiliated Colleges, in accordance with the decision of the Library Committee. These duplicates remain the property of the University, and may be recalled to the main Library if needed there.

With the addition of the Goldwin Smith Library to the shelves, the available space for growth has greatly diminished. In two or three years the existing stack will be full. Fortunately there is still space in the stack room for erecting additional metal shelving to accommodate about 30,000 volumes.

The two chief necessities of the Library at present are an increased cataloguing staff and increased appropriation for books. The present cataloguing staff can hardly do more than keep up with the current additions of books, periodicals and pamphlets. Consequently, the subject catalogue of the whole Library, which is not much more than half-finished, proceeds slowly. The appropriation for books, periodicals and binding has remained at the same figure, $14,000 for the last six years. During that period new departments of instruction have been added in all Faculties. Consequently there are more claims than before for a share in the total appropriation. At the same time the cost of current periodicals already taken and of binding has noticeably increased, so that the money available for books and new periodicals in each department is actually less than it used to be. It is obvious that without additions to the appropriation the Library will prove inadequate for the necessities of the teaching, and that the University must suffer in efficiency. Comparison of the sums available for the purchase of books and periodicals in other universities of the same class as the University of Toronto shows how necessary it is that a substantial addition to the appropriation for books should be made. A policy of steady addition to the appropriation for some years, say $2,000 per annum, would probably meet the urgency of the situation without giving opportunity for any extravagance.

Statistics for other universities in comparison with the University of Toronto are appended.

University.	No. of Professors, etc.	No. of Students.	No. of Library Staff.	No. of Books.	Annual expenditure on Books (latest obtainable).
					$
California	439	6,392	25	250,000	30,000
Michigan	410	5,582	24	305,000	30,000
Minnesota	440	4,057	24	160,000	32,000
Ohio	240	3,928	14	117,000	20,000
Wisconsin	581	5,748	18	192,000	24,000
Toronto	386	4,141	14	138,000	14,460

(7) Report on University Extension Work. (Dr. A. H. Abbott.)

The number of lectures arranged for at local centres outside of the city of Toronto was seventy. For these the lecturers received in fees, from the organization arranging for such lectures $345, and from the Board of Governors, as a supplement thereto, $330. There were approximately fifty lectures arranged for in the city of Toronto for which, in round numbers, $50 was received. Most of these lectures given in the city are for charitable organizations and are given without charge by the lecturers. A fairly conservative estimate of the number lectured to in these one hundred and twenty lectures would be probably 10,000.

It is difficult to estimate the influence of lectures such as are given at these various centres. We have repeatedly found instances of students attending the University whose interest has been turned in this direction by attending lectures of this kind. It is very obvious that when not more than one lecture is given by a lecturer in any given place, the educational value of the lecture cannot be anything like as great as would be a course given by one man. We, therefore, constantly endeavour to arrange such courses rather than a series of individual lectures, but although it cannot be said that it is easy to arrange lectures in courses, this attempt is meeting with a certain amount of encouragement.

In addition to the lectures above reported, a course of eight lectures, delivered in German, was given in the Physics Building. A small entrance fee was charged for these lectures to defray expenses, and the reception given the lectures was decidedly encouraging. We believe that if such courses were organized throughout the winter and were given by the University, as we believe they ought to be, free of charge to the public, we might soon have a very considerable interest in such lectures aroused within the city of Toronto.

A course of lectures was also delivered by Mr. L. Smith-Gordon of the Department of History on "Ireland and Irish Conditions." These were given at five o'clock in the afternoon, and were heartily received by the public.

The University has attempted to arrange courses for the teachers of the city of Toronto for many years, and yet, in spite of our best efforts, the interest in these courses has gradually been declining. It is not difficult to locate at least one of the causes of this decline. The Board of Education does not discriminate between those who hold a second class certificate and those who hold a first class certificate or graduation from the University. Until a premium be set upon higher scholastic attainments, it is recognized that this work among the teachers of the city is not likely to develop. Last year but one course was arranged, namely, in English, for which eleven registered.

With the co-operation of the Department of Education courses were arranged last summer preparatory to the examination for Entrance into the Normal Schools and into the Faculties of Education, in addition to work for special certificates in Household Science, Manual Training, Vocal Music and Elementary Science. The attendance at the summer session was as follows:—Entrance into the Faculties of Education, 85; Normal Schools, 28; Physical Culture, 98; Household Science, 37; Vocal Music, 32; Elementary Science, 15; Manual Training, 9; Commerce, 10. Total enrolment, 305. (Nine registered for more than one course.)

The response to the offer made by the Department of Education through the University Extension Department warrants us in believing that the teachers of the province are heartily in favour of such work being done. Moreover, the fact that with the appearance of these courses it was found impossible to arrange courses in the Faculty of Arts, suggests a condition which has long been suspected, namely, that the attendance in the Faculty of Arts in the past has been more because the teachers wished to write upon the Faculty Entrance examination than for the sake of the standing in Arts. Whether or not it will be found impossible to arrange courses in the Faculty of Arts in the future one cannot, of course say, but it may very well be assumed that the first year classes of the general course will not be taken by teachers, so long as they can get instruction in the work prescribed for Entrance into the Faculties of Education, since this examination is accepted by the University in lieu of the first year general course. During the Summer Session also, the University residences, Queen's Hall and the Dining Hall, were open from

the middle of June until the first of August, and all of these were well patronized by students and teachers.

The work of the University Extension is progressing, and we believe that the possibilities of doing much good work to-day are greater than they have ever been.

(8) Statement Regarding the Biological Museum. (Professor B. A. Bensley.)

During the past year provision has been made for a zoological section of the Royal Ontario Museum. A floor space of about 6,000 square feet, comprising the north portion of the upper gallery, was assigned for the purpose. The area will be used for a collection illustrating the Canadian fauna. A number of new cases, comprising twelve free-standing cases and six table cases, have been provided, and a beginning will be made by transferring the entire Canadian collection together with a portion of the cases from the present Biological Museum.

The Museum has received by gift:

1. Nest and eggs of Mangrove Cuckoo, Cat Bird and Song-Sparrow, and eggs of British birds, from Mr. Lewis B. Brown, Toronto.

2. A living Tarantula, from Mr. Walter Groves, Toronto.

3. An unusually fine skeleton and head of the African White Rhinoceros, prepared by Mr. A. Pride, from a specimen which died at Brantford; presented by the management of Barnum & Bailey.

4. There has been added to the Museum a portion of the valuable collection of the late Dr. Oronhyatekha, presented by the Independent Order of Foresters, and including eggs of Ostrich and Cassowary, a Hawksbill turtle, a Diamond-backed rattlesnake and various specimens of fishes, shells and corals.

The Museum has received by purchase:

1. A collection of Javan animals, comprising 40 birds, 4 lizards, and 200 insects, from Mr. C. I. Hodgins, Annapolis, N.S.

2. Four casts of fishes from Ward's Natural Science establishment, Rochester.

(9) Statement Regarding the Geological Museum. (Professor A. P. Coleman.)

Owing to the delay in finishing the gallery in the basement of the new building it was not, until last autumn, that the arrangement of material in the Geological Museum could be commenced. All the specimens at present in possession of the department have been temporarily placed in position, but time has not sufficed for the preparation of the explanatory labels with which it is intended to equip this gallery. A large amount of material, particularly decorative substances and cobalt-silver ores, has been sawn and polished for exhibit.

The more important acquisitions are as follows:—

By Donation:

Large specimen of rock with asbestos veins and a series of asbestos products.—The Asbestos Corporation of Canada, Thetford Mines, Que.

Large specimen of graphite.—The Tonkin-Dupont Graphite Co., Wilberforce, Ont.

Fine specimen of native silver from the O'Brien Mine, Cobalt.—J. B. O'Brien, Esq., Toronto.

A pedestal of marble.—The Ontario Marble Co., Toronto.

By Purchase:

Several series of specimens illustrating the formation of ore bodies.

A copy of Wm. Smith's original geological map of England.

A replica of the bust of Sir Wm. Logan, prepared for the Twelfth International Geological Congress, which met in Canada in 1913.

By Collection:

Copper ores and geological specimens from Alaska.—Professor Coleman.

Decorative stones from Quebec.—Professor Parks.

(10) Statement Regarding the Palæontological Museum. (Professor W. A. Parks.)

During the past year the small collection which has been reserved for teaching purposes in the Chemistry and Mining Building has been revised and provided with new labels. The work of re-arranging the material in the Museum Building is proceeding in a satisfactory manner, as nearly all the systematic collection has been revised. The larger and more showy specimens are being separated from the systematic series and placed in special cases for the benefit of the general public: these specimens are being provided with printed explanatory labels, but scarcely more than a third of the work necessary in this connection has yet been done.

The death of Mr. Joseph Townsend, who for many years has acted as collector for the department, is much to be regretted.

The chief acquisitions during the year are as follows:

By Donation:

Collection of Lockport fossils from Wisconsin.—Dr. Edgar Teller, Milwaukee, Wis.

The large collection brought by Mr. J. B. Tyrrell from the District of Patricia, Ont.

Collection of Colorado fossils.—Dr. George, Boulder, Col.

By Purchase:

Devonian crinoids and Trilobites from Europe.

An excellent skeleton of a Moa from New Zealand.

By Exchange:

A collection of Normandy fossils.—Dr. A. Bigot, Caen, France.

A collection of Italian fossils.—Dr. C. de Stefani, Firenze, Italy.

By Collection:

A tusk of a mammoth from the Klondike gravels.—Professor Coleman.

The head of a young groundhog from the Interglacial of the Don Valley.—Professor Coleman.

Oriskany, Onondaga and Hamilton fossils.—Professor Parks.

(11) Statement Regarding the Mineralogical Museum. (Professor T. L. Walker.)

The collections of the University and of the Royal Ontario Museum of Mineralogy have been enlarged during the year by purchases, donations and exchanges. The following lists contain the names of our chief benefactors:

Exchanges.

U. S. National Museum	Washington, D.C.
Field Museum of Natural History	Chicago, Ill.
Mineralogiske of Geologiske Museum	Copenhagen, Denmark.
Geological Survey of Canada	Ottawa.
Lehigh University	South Bethlehem, Pa.
W. A. Roebling	Trenton, N. J.
W. T. Watkins Brown	Sydney, N.S.W.

Donations

American Museum of Natural History	New York City.
J. W. de Aguero	New York City.
F. R. Aufhammer	Renfrew, Ont.
F. J. Alcock	Yale University, New Haven, Conn.
A. G. Burrows	Bureau of Mines, Toronto.
Barber Asphalt Paving Co.	Philadelphia, Pa.
Canadian Sulphur Ore Co.	Queensboro, Ontario.
Canadian Copper Ore Co.	Copper Cliff, Ontario.
A. M. Campbell	Perth, Ontario.
Dr. James Douglas	New York City.
F. R. Emmerson	Port Arthur, Ontario.
W. F. Ferrier	Toronto.
Reginald E. Hore	Toronto.
Chas. Hays	Toronto.
Col. A. M. Hay	Toronto.
Paul Hahn	Toronto.
H. H. Hayden	Geol. Survey of India, Calcutta, India.
F. A. Jordan	Sellwood, Ontario.
H. G. Kennedy	Cobalt, Ontario.
Major R. W. Leonard	St. Catharines, Ontario.
Dr. W. G. Miller	Bureau of Mines, Toronto.
B. B. Neilly	Mgr. Penn-Canadian Mines, Cobalt.
E. V. Neelands	Mgr. Hargraves & Drummond Mines, Cobalt.
J. B. O'Brien	Cobalt, Ontario.
C. A. O'Connell	Kirkland Lake, Ontario.
Hon. C. J. Osman	Hillsborough, N.B.
J. Palmer	Mgr. Worthington Mine, Worthington, Ontario.
Professor A. L. Parsons	University of Toronto.
E. F. Pullen	Alexo Nickel Mine, Iroquois Falls, Ont.
Sir Henry Pellatt	Toronto.
Elias Rogers Coal Co.	Toronto.
P. A. Robbins	Hollinger Gold Mines, Timmins, Ont.
Edward Schoch	Warmbaths, Transvaal.
Hon. Geo. Smith	Thetford Mines, Que.
W. E. Segsworth	Toronto.
J. B. Stitt	University of Toronto.
Col. Stevenson	Pearl Lake Mining Co., Schumacher, Ont.
Nelson W. Sweetser	Phoenix, B. C.
C. S. Wright	Caius College, Cambridge, England.
S. A. Wookey	Sydenham, Ontario.
Rev. C. J. Young	Madoc, Ontario.

(12) Medical Research Fund, University of Toronto.

The Medical Research Fund of the University of Toronto was formed in 1912 by the generosity of some of the citizens of the Province of Ontario upon the representation of the need for it by the Professor of Medicine.

It is not enough that the Medical School of this city has more students than any school, except Edinburgh, in the British Empire, nor is it enough that the training given them comes, according to the Carnegie Report, up to the highest

standard of American medical education. It is not even sufficient in itself that the Toronto General Hospital is acknowledged by competent judges to be the best general hospital building that has yet been planned on this continent. A medical school that is to take its place among the great schools of the world must be working, as they work, for the future development of medical science. If the schools of Germany in Berlin or Heidelberg or Munich are regarded throughout the world as being in the front rank, they have this prestige not because they have more students, nor even because the course of instruction is better planned or carried out in finer buildings than elsewhere. It is because in these schools during the past generation much of the work has been done which makes the medicine taught to-day more helpful and more hopeful than that which was taught thirty years ago: and because in them much of the pioneer work, and the scouts' work, which is necessary for the continued advance of medicine in our time, is still being done to-day.

Every teacher of medicine or of any living science knows that, while in the first place he has to instil the principles that have been established by the work and experience of his predecessors and contemporaries, it is hardly less important to instil also the spirit of enquiry, and to train his pupils to test critically their own ideas and those proposed by others. The proper outlet for an enquiring mind is the critical training of systematic experimentation. No one can be expected to go far in medicine, nor in any science, who gets no ideas of his own from his studies, who has not the opportunity to put his ideas to the test, and who is not trained in the balancing of evidence obtained by scientific experiment. Medical Research is just this. The great achievements of medicine are made possible by the work of a host of investigators whose names may not be associated by the public with those achievements. The completion of the Panama Canal, it is generally recognized, was due to the skilful organization of medical service by Dr. Gorgas. But it was not the lack of skilful medical service that caused the failure of De Lesseps twenty-five years ago. The work that made the canal possible was begun by a French surgeon working over a microscope in Algiers at the very time when the French engineer was ruining himself and many of his countrymen by his schemes in central America. The discovery by Laveran of certain minute particles in the blood of those suffering from malaria seemed at that time just a curiosity of abstruse information with no interest for the generality of men. It has led, and is leading, to changes in the history and geography of the world.

A great medical school is a centre of scientific thought. The great schools of to-day are those that have stimulated, have given the opportunity and the training for pioneer work such as that of Laveran and of all those who following him have finally shown how malaria can be controlled or even stamped out. This is the service a school must render to prove itself worthy of a place in the front rank.

It is to enable the graduates of Toronto to qualify for such service that the Medical Research Fund was instituted. For medical investigations, though they may ultimately help to save lives, do not provide a living for the investigator. It is not possible for a young graduate to devote the first years after graduation to scientific work unless his immediate needs are met. It is not possible to retain the best men of their year for such service unless they are able to live as befits their standing; and if they acquire skill and experience they should not be left to compare the advancing prosperity of less gifted contemporaries, who have gone out into the world, with their own unrecognized, unrewarded labours.

The scheme, as it is at present proposed to work it, has led to the appointment of a physician in charge of the Out-Patient Department, who is to direct the distribution of cases that come for treatment to the care of those specially devoted to the

study of particular subjects in medicine: a physician engaged in the study of the pathology and treatment of tuberculosis, who is given special facilities for the study of out-patients suffering from this disease and a laboratory for carrying out the investigations on which this study is based. He is following out certain properties of the blood in tuberculosis which seem likely to be of service in forecasting the course of the disease, and also to throw light on the nature of immunity to it. In addition, a number of Research Fellows have been appointed. Two of these, senior Research Fellows, are physicians who have already had special training since graduation; one of them in the treatment and pathology of nervous diseases, now working upon the microscopic examination of the brain and spinal cord in certain diseases of the nervous system, in the laboratory of the Department of Pathology; and one in internal medicine, who is attached for laboratory work to the Department of Pathological Chemistry. He has published during the past year work on the causation of pernicious anæmia, and is at present engaged in the study of the blood in Bright's disease. In addition there are at present three junior Research Fellows. They, like those already mentioned, hold office in the Department of Medicine, and have to keep in touch with the opportunities for investigation presented by cases undergoing treatment in the wards of the Hospital, and are engaged in work in the laboratories of the Pathological Building for the rest of the day. Papers are in preparation on work done by these Fellows during the past year upon fatty disease of the heart, and upon the course of chemical changes in the body under the influence of the poisons of typhoid fever and tuberculosis.

As the scheme matures and suitable men present themselves, additional Fellows will be appointed who will not only have facilities for studying the clinical material of the Hospital, but will also spend the greater part of their time working in one or other of the laboratories connected with the Hospital and University on questions that present themselves for solution in connection with the cases in the wards. Indeed, in the case of all the appointments the duties involve the expenditure of most of the day on investigation in the laboratory and only the smaller part in the wards of the Hospital; for it is in the laboratory that the investigation of the nature, cause, and even treatment of disease must be carried out.

The Fellows working in the Department of Pathological Chemistry under the Medical Research Fund have been:

(1) Dr. F. McPhedran, who published a paper "On the Hemolytic Properties of Fatty Acids and their Relation to the Causation of Toxic Hæmolysis and Pernicious Anæmia" (*Jl. of Experimental Medicine*, Vol. XVIII), in the fall of last year. Since then his work has been on the reaction of the urine and the blood in diseases of the kidneys. He has met with technical difficulties which are, I think, now overcome, and results should be obtained that will be of interest and importance.

(2) Dr. C. G. Imrie has completed a valuable piece of work on fatty disease of the liver, heart and kidneys, now ready for the press and to appear in the *Journal of Pathology*.

(3) Dr. N. C. Sharpe, who has been assisted in part by Dr. K. M. B. Simon, has worked on the changes in metabolism involved in the reaction to toxins. His paper is also ready for publication, and will appear about the same time as Dr. Imrie's, or very soon after it. Dr. Sharpe's work has been laborious and conscientiously carried out: it was reported, as was also Dr. Imrie's, at the meeting of the American Association of Pathologists and Bacteriologists recently held in Toronto.

Dr. Simon has, in addition to his share in Dr. Sharpe's work, been engaged in the study of the action of the photo-sensitive substance hæmatoporphyrin, and is continuing his experiments partly in the Department of Pathology.

The Fellows working in the Department of Pathology have been:

(1) Dr. R. G. Armour, whose work was in acquiring the necessary technical facility in the use of special methods of histological study of the central nervous system; special study by serial sections of a case of Hemiplegia, which died in the wards of the General Hospital; study by serial sections of an obscure case of posterior degeneration of a cord, which died in the General Hospital. For comparison with these there was conducted a study of the cord of the cat, of which posterior roots of one side were cut and serial sections cut and stained by various histological methods; study of the brain in general paralysis of the insane and of the cords in tabes by the Levaditi method and modification of the same in an attempt to localize by spirochæte in definite areas; histological study of several brain tumors.

(2) Dr. Caulfeild's researches have been chiefly devoted to Tuberculosis; when other infections have been taken up, it has been for the purpose of helping to elucidate questions in the main work. As considerable equipment had to be installed, work was not begun until the end of March, 1913.

The end in view has been to demonstrate, if possible, under what biological conditions infection to tuberculosis takes place, and if possible those biological conditions that are essential to the patient's recovery. Provided these facts could be satisfactorily obtained, it was then proposed to attempt to reproduce these conditions experimentally in animals with the ultimate hope of using the sera (or cell emulsion) as a specific means of curing, or aiding the recovery in human subjects.

(13) Report of the Director of the Antitoxin Laboratory. (Dr. J. G. Fitzgerald.)

On May 1st, 1914, there was established in the Department of Hygiene, a laboratory for the production of Biological Products; Diphtheria Antitoxin, Rabies Vaccine (Pasteur treatment), Tetanus Antitoxin and Anti-meningitis Serum were ready for distribution when the laboratory was opened.

The fundamental idea underlying the project was the production of all sera and vaccines of value in public health work and their distribution at cost. It was expected that the active co-operation of public health authorities in Canada would be obtained, and this has, in large measure, been realized. Arrangements were soon made to distribute Diphtheria Antitoxin in Ontario under the auspices of the Provincial Board of Health. The Chief Officer of Health of Ontario, Dr. John W. S. McCullough, has been an ardent supporter of the project, and he at once undertook to obtain all Pasteur treatments needed for patients in Ontario, from this laboratory. These treatments have also been supplied to the Provincial Boards of Health of Saskatchewan and of British Columbia.

Diphtheria Antitoxin is being sent to Nova Scotia, through an arrangement with the Provincial Board of Health of that province; the Secretary of the Board, Dr. W. S. Hattie, Halifax, warmly endorsing the work. Likewise Dr. M. M. Seymour, Commissioner of Health of Saskatchewan, has approved the idea, and Diphtheria Antitoxin is being sent to many points in that province. The laboratory has sent Typhoid Vaccine to the Province of British Columbia, the same being used there as a prophylactic against Typhoid Fever by the Provincial Board of Health, through its Secretary, Dr. W. Bapty. Diphtheria Antitoxin is being sent also to

Montreal, Quebec, and Calgary, Edmonton, Vancouver, and other cities have signified their intention of co-operating with the laboratory in the near future.

In the use of some of the products of the laboratory, signal success has been obtained, notably with Tetanus Antitoxin as a therapeutic agent. The result of this work has been reported in the current medical literature. The value of Anti-meningitis serum in cerebro-spiral meningitis is also worthy of mention, the mortality having been reduced from seventy-five to twenty-five per cent. where the serum is used.

It is proposed in connection with the work of the laboratory, that facilities be provided for research along the lines of Hygiene and Preventive medicine. Furthermore, the laboratory is available and is being used for Public Health teaching. The value of the laboratory is thus greatly enhanced, since the public service aspect is made to go hand in hand with teaching and research, a combination possible only when the work is being done in connection with the University.

It is the hope of those responsible for the laboratory that it may in this way be possible to gradually develop in Canada, laboratories analogous in scope to those of the Lister Institute in London and the Pasteur Institute in Paris, Brussels and elsewhere.

(14) Reports from the Biological Stations. (Professor A. B. Macallum, Secretary-Treasurer of the Biological Board of Canada.)

The St. Andrew's Biological Station.

The season at this Station was a very successful one. A large number of workmen were in attendance for the greater part of the time the laboratory was open. Amongst those were Dr. A. G. Huntsman of this University, who acted as Curator; Professor A. P. Knight of Queen's University; Professor Cox of Fredericton; Professor Perry of Acadia; Professor E. E. Prince, Chairman of the Biological Board and Commissioner of Fisheries; Messrs. Cooper, Martin and Wallace from this University, and Messrs. Millar, Klugh and Detweiler of Queen's. The work carried on involved special researches in faunistic problems, in the life history of a number of forms, and also, on the economic side of investigations, a number of questions affecting the fisheries. The facilities for research have recently been greatly extended, largely due to the new gasoline motor boat, the *Prince,* which was planned and constructed for the Station. This is a sea-going vessel which can be and was used for long expeditions to remote points on the Bay of Fundy not hitherto accessible to members of the staff. Through these expeditions a large collection of material was obtained which is now under classification. From this collection, as well as from the collections of earlier years, a very interesting display was made at the St. Stephen Exhibition in September last.

It is expected that the facilities for biological work afforded by the Station will be more and more utilized as these become known to biological workers.

The Go-Home Biological Station.

The attendance at this Station was small, and included Dr. J. W. Mavor, who acted as Curator, Mr. A. B. Klugh and Miss Ryerson.

The reason for the small number of workers appears to have been the attractiveness of the other Biological Station for scientific workers. The problems studied covered faunistic questions and studies in the life history of several forms.

The Nanaimo Biological Station.

This Station was under the charge of Dr. C. McLean Fraser, the Curator. Amongst the workers were Professor A. T. Cameron of the University of Manitoba; Dr. E. M. Walker with Mr. T. B. Kurata of this University; and Mr. Dayton Stoner of the State University of Iowa. Dr. Fraser gave his attention to the Hydroids of the Pacific Coast, on which he has prepared a very extensive and valuable monograph now in the course of publication. He also began an investigation on the life history of the herring of the Pacific, which had not been previously studied. Its life history differs in some important aspects from the herring of the Atlantic, and as it is a valuable food fish, its possible extermination by the wholesale fishing by the Japanese makes it necessary to know much more concerning it in order to legislate effectively for its preservation. Dr. Fraser carried on an extensive series of observations on the coho salmon, spring salmon, steelhead, blue cod, etc. In all this work Mrs. Fraser assisted. Professor Cameron was engaged on the study of the iodine content in the tissues of marine forms generally. He gave special attention also to the iodine and potassium content of the sea weeds of the Pacific Coast of Canada, a subject to which he has been asked to give special attention for 1914, because of the possibly very great economic value of the sea weeds as a source of iodine and potassium. Dr. Walker and Mr. Stoner, while engaged specially in entomological studies, gave attention also to other problems, the former to collecting the Isopods and Decapods in the British Columbia waters, and the latter to a study of the Echinoderms of the same.

This Station also came into the possession by purchase of a new gasoline boat, the *Ordonez,* which is as large as the *Prince,* belonging to the St. Andrew's Station. A new motor launch has been added to the Station, and the accommodation of the laboratory and the mess house has been extended. The facilities for research at this Station are now as great as those of the Atlantic Station, while the material for the study of any particular class is much more extensive.

(15) Report of the Physical Director. (Dr. J. W. Barton.)

The work of the physical department for the past year shows an increase in the outdoor athletics and a decrease in the indoor work.

The decrease in the indoor work can be accounted for largely by our inadequate facilities. Our boxing, wrestling and fencing students have been using a portion of the Chemistry and Mining Building, while our 1st and 2nd Basket-ball teams and our Gymnasium team have been using the gymnasium of the Central Y.M.C.A., on College Street. The Athletic Association helped to defray the cost of the tickets at the Y.M.C.A.

Of Inter-Collegiate championships we have not won as many as usual. McGill carried off the Rugby, Boxing and Wrestling, Swimming and Tennis championships; Queen's won the Hockey; while our teams won the Track, Soccer and Harrier championships. However, our Inter-Faculty competitions have brought out more teams and competitors than ever before. As we have reported on previous occasions, we have a greater variety of athletic competitions and more teams and students engaged therein than any University in America.

The Inter-Faculty competitions comprise Rugby, Hockey, Track, Harriers, Soccer, Basket-ball, Tennis, Boxing, Wrestling, Fencing, Swimming, Water Polo, Gymnastics. While Rugby is the most popular from the spectator's standpoint, Soccer has more students engaged, Rugby having fifteen teams playing and Soccer twenty-two.

The recent action of the Board of Governors in appointing Mr. T. A. Reed to the position of Secretary-Treasurer of the Athletic Association will be of great benefit to our work. It will enable the Physical Director to take better care of his own particular department, that is the physical examinations, supervision of the condition of the students on the various teams, and the supervision of all the teaching. Mr. Reed will be able to help the managers of the various clubs get the most possible value for the money expended, besides training them in business methods.

The growth of the Inter-Faculty and Inter-Collegiate competitions, the instruction of secretaries and managers, and various other details made necessary the appointment of a separate officer.

Some idea of the growth of the work since the appointment of the Physical Director seven years ago may be gathered from the fact that there was at that time Inter-Faculty competition in but six branches and Inter-Collegiate competition in but four, whereas we have now Inter-Faculty competition in fourteen branches and Inter-Collegiate competition in twelve.

There is a possibility of our portion of Hart House being ready for next session. It will mark the beginning of a more complete work—that is, physical exercise and athletics for every student.

The number of women students in attendance at Gymnasium classes was 124. The average attendance at each class was 14. The number of Gymnasium classes a week was 8. The total number of classes was 186.

There were sixty students attending the first year Physical Training class for the University certificate, and forty of these passed the practical examinations.

(16) Report from the Superintendent of the Dining Hall. (Miss V. M. Ryley.)

In submitting my report for the academic year 1913-14, I am glad to state that the year has been a successful one in every respect.

The attendance has been large, with an average of about 1,000 meals per day, 275 for breakfast, 425 for luncheon and 300 for dinner, and a total (including Summer Session) of over 190,000 meals. This is slightly less than the number served last year, owing to increased accommodation for students in this district.

Each year it is becoming easier to operate the Dining Hall, and give satisfactory service, as more apparatus and labour-saving devices are added. The students receive ice cream for dessert once or twice a week, and this year a new electric ice cream freezer and ice crusher was installed to replace a small one that was entirely inadequate. I have now an electric ice cream freezer, ice crusher, vegetable parer, meat chopper and toaster, and these all save a great amount of labour.

During the last four years I have trained twelve pupil dietitians in institutional management, who have spent from four to eight months each as Assistant Superintendent in the Dining Hall, for the practical experience. These pupil dietitians have all been graduates in Household Science from the Department of Household Science. They take the detailed supervision of the help and inspection of their work. During meals, one pupil dietitian observes the service in each serving room and prevents any delay by directing each employee where he can be most usefully engaged.

Each year a greater number of Bible Study classes, discussion clubs and executives of one society or another ask if they may secure a separate dining hall, where they may have either luncheon or dinner, and then hold the discussion after. We

have no suitable room for such luncheons, but to accommodate them have given a large number of small luncheons in the help's dining-room.

During the summer of 1913, when the International Geological Congress was entertained at the University, the Dining Hall was opened to accommodate the guests in the men's residences. It was again opened for three days to the guests at the City Planning Congress, held in Convocation Hall this May. To these guests 2,000 meals were served at a cost of $1,000, the service, flowers and menu being very much more elaborate than at regular times.

APPENDIX B.

(1) Enrolment in the Colleges.
(2) Enrolment in University Subjects.
(3) Registration in Courses in the Faculty of Arts.
(4) Registration of Women Students.

(1) ENROLMENT IN THE COLLEGES.

The students in University College were enrolled as follows:

——	Greek.	Latin.	Ancient History.	English.	German.	French.	Orientals.	Ethics.
First Year—								
Pass	22	267	121	205	122	186	69	.....
Honours	14	34	54	78	40	59	.....	.....
Second Year—								
Pass	11	126	68	184	112	158	46	.....
Honours	13	29	42	51	36	28	.....	.....
Third Year—								
Pass	11	17	28	133	55	70	41	78
Honours	10	16	16	35	19	19	.....	8
Fourth Year—								
Pass	8	9	18	147	31	61	54	43
Honours	17	15	13	42	33	33	.....	.....
Totals—								
Pass	52	409	235	669	320	475	210	129
Honours	54	94	125	206	128	139	.....	.....

The students in Victoria College were enrolled as follows:

——	Greek.	Latin.	Ancient History.	*English.	German.	French.	†Orientals.	Ethics.
First Year—								
Pass	16	112	48	100	60	82	38	.....
Honours	11	21	22	36	34	19	.....	.....
Second Year—								
Pass	16	66	.....	102	60	73	19	1
Honours	6	6	13	17	15	14	4	5
Third Year—								
Pass	4	9	15	72	23	22	14	48
Honours	6	3	4	14	10	10	1	7
Fourth Year—								
Pass	1	11	11	74	13	16	6	32
Honours	6	5	5	17	14	14	5	5
Totals—								
Pass	37	198	74	348	156	193	77	81
Honours	29	35	44	84	73	57	10	17

*5 M.A. students in English. †2 graduate students.

The students in Trinity College were enrolled as follows:

——	Greek.	Latin.	Ancient History.	English.	German.	French.	Orientals.	Ethics.
First Year—								
Pass	8	31	15	30	24	28	3	.....
Honours	4	11	11	14	11	10	.....	.....
Second Year—								
Pass	9	26	2	22	9	15	6	.....
Honours	.....	.....	.....	6	7	6	.....	.....
Third Year—								
Pass	3	12	9	25	13	18	4	11
Honours	1	1	1	7	5	5	.....	.....
Fourth Year—								
Pass	.....	3	5	12	6	9	.....	2
Honours	3	4	3	9	4	7	.....	.....
Totals—								
Pass	20	72	31	89	52	70	13	13
Honours	8	16	15	36	27	28	.....	.....

The students in St. Michael's College were enrolled as follows:

——	Greek.	Latin.	Ancient History.	English.	German.	French.	Philosophy.	Ethics.
First Year	13	46	3	48	34	47	.....	.....
Second Year	3	18	.....	24	17	22	20	.....
Third Year	3	5	1	30	8	12	21	29
Fourth Year	2	2	1	7	2	1	8	8

(2) Enrolment in University Subjects.

The following tables exhibit the numbers attending lectures in University subjects, together with the numbers of those taking the practical work in the laboratories:

DEPARTMENT OF MATHEMATICS.

——	Pass.	Pass and Honours.	Honours.
Faculty of Arts—			
First Year	419	.....	56
Second Year	.....	.....	68
Third Year	10	.....	21
Fourth Year	10	.....	23
Faculty of Applied Science—			
First Year	.....	144	.....
Second Year	.....	.....	142
Total	439	144	310

DEPARTMENT OF PHYSICS.

——	Pass.	Pass and Honours.	Honours.	Laboratory
Faculty of Arts—				
First Year	165	.....	116	269
Second Year	.....	.....	81	54
Third Year	3	.....	21	31
Fourth Year	1	.....	21	8
Graduate Students	.....	.....	4	4
Faculty of Medicine—				
First Year	.....	121	.....	121
Department of Dentistry	96	.....	.....	96
Faculty of Forestry—				
First Year	14	.....	.....	13
Total	279	121	243	596

DEPARTMENT OF BIOLOGY.

——	Pass.	Pass and Honours.	Honours.	Laboratory.
Faculty of Arts—				
First Year	390	.....	70	409
Second Year	.....	.....	59	59
Third Year	4	.....	21	25
Fourth Year	.....	.....	5	5
Graduate Students	.....	.....	.....	9
Faculty of Medicine—				
First Year	.....	123	.....	123
Second Year	.....	89	.....	89
Faculty of Applied Science—				
First Year	.....	5	.....	5
Second Year	.....	.....	.....	3
Third Year	.....	17	.....	.....
Fourth Year	.....	.....	.....	15
Faculty of Forestry—				
First Year	.....	17	.....	17
Second Year	.....	10	.....	10
Third Year	.....	8	.....	8
Fourth Year	.....	5	.....	5
Ontario Veterinary College Students in Botany	.....	.....	.....	195
Total	394	274	159	977

DEPARTMENT OF CHEMISTRY.

——	Pass.	Pass and Honours.	Honours.	Laboratory.
Faculty of Arts—				
First Year	.....	.....	120	120
Second Year	81	.....	66	143
Third Year	10	.....	7	7
Fourth Year	1	.....	13	7
Occasional Students	.....	.....	.....	5
Graduate Students	.....	.....	.....	7
Faculty of Medicine—				
First Year	.....	122	.....	122
Faculty of Applied Science—				
Third Year	.....	6	.....	.....
Faculty of Forestry—				
First Year	.....	16	.....	16
Second Year	.....	10	.....	1
Third Year	.....	1	.....	.....
Ontario Veterinary College Students	98	.....	.....	98
Total	190	155	206	526

DEPARTMENT OF PHYSIOLOGY AND BIOCHEMISTRY.

——	Pass and Honours.	Honours.	Laboratory.
Faculty of Arts—			
Second Year	23	23	23
Third Year	36	25	36
Fourth Year	33	21	33
Occasional Students (Food Chemistry)	24	.....	2
Faculty of Medicine—			
Second Year	88	.....	88
Third Year	118	.....	118
Veterinary Students	89	.....	89
Total	411	69	389

DEPARTMENT OF GEOLOGY.

——	Pass.	Pass and Honours.	Honours.	Laboratory.
Faculty of Arts—				
Second Year	269	.....	19	247
Third Year	.....	.....	3	3
Fourth Year	7	.....	7	11
Faculty of Applied Science—				
Second Year	.....	11	.....	.....
Third Year	.....	109	.....	16
Fourth Year	.....	95	.....	.....
Faculty of Forestry—				
Second Year	11	.....	.....	11
Third Year	7	.....	.....	.....
Fourth Year	1	.....	.....	.....
Total	295	215	29	288

DEPARTMENT OF MINERALOGY.

——	Pass.	Pass and Honours.	Honours.	Laboratory.
Faculty of Arts—				
Second Year	220	.....	17	221
Third Year	.....	.....	9	9
Fourth Year	2	.....	11	11
Graduate Students	.....	.....	.....	4
Faculty of Applied Science—				
First Year	.....	4	.....	4
Second Year	.....	75	.....	75
Third Year	.....	25	.....	25
Fourth Year	.....	18	.....	18
Faculty of Forestry—				
Second Year	.....	14	.....	14
Third Year	.....	10	.....	10
Total	222	146	37	391

DEPARTMENT OF PHILOSOPHY.

—	Introduction to Philosophy.	History of Philosophy and Metaphysics.		Psychology.	Logic.	Ethics.	
		Pass.	Hon-ours.	Honours.	Honours.	Pass.	Hon-ours.
Second Year	228	.....	17	16	.....	16	16
Third Year	.....	101	19	19	20	75	11
Fourth Year	.....	55	16	13	14	29	12
Graduate Students	.....	.....	11	14	1	.....	8
Total	228	156	63	62	35	120	47

DEPARTMENT OF POLITICAL SCIENCE.

———	Pass.	Honours.
Faculty of Arts—		
Second Year	37	32
Third Year	122	21
Fourth Year	77	26
Department of History	.....	16
Department of Philosophy	35	.....
Department of Commerce and Finance:		
First Year	.....	15
Second Year	.....	13
Third Year	.....	6
Fourth Year	.....	2
Graduate Students	.....	10
Occasionals	.....	2
Department of Chemistry and Mineralogy	3	.....
Faculty of Forestry—		
Fourth Year	6	.....
Department of Household Science	4	.....
	284	143

DEPARTMENT OF HISTORY.

	Pass.	Honours.
First Year	19	10
Second Year	143	55
Third Year	160	53
Fourth Year	138	44
Total	460	162

DEPARTMENT OF ITALIAN AND SPANISH.

	Italian		Spanish.		Phonetics.
	Pass.	Honours.	Pass.	Honours.	Honours
First Year	75	50	48	4	.....
Second Year	15	16	17	6	.....
Third Year	8	9	1	3	23
Fourth Year	3	11	1	6	.....
Graduate Students	.....	1	.....	2	.....
Total	101	87	67	21	23

DEPARTMENT OF HOUSEHOLD SCIENCE.

	Pass.	Honours.	Total.
Arts Students proceeding to a degree	31	82	113
Arts Students—research	.....	1	1
Arts Students—occasionals	.....	1	1
Faculty of Education Students	.....	.....	127
Household Science Students—occasionals	.....	.....	77
Department of Education:			
April—June Course	.....	.....	13
Summer Session	.....	.....	37
	31	84	369

(3) Registration in Courses in the Faculty of Arts, 1913-1914.

Courses.	First Year.				Second Year.				Third Year.				Fourth Year.				Total.	M.A.	Ph.D.
	U.C.	V.C.	T.C.	St.M.	U.C.	V.C.	T.C.	St.M.	U.C.	V.C.	T.C.	St.M.	U.C.	V.C.	T.C.	St.M.			
General Course	152	100	21	47	84	48	15	7	91	44	22	12	77	26	11	2	759	2	....
Classics	7	9	3	1	8	3	1	.....	5	3	1	.....	7	5	3	.....	56	6	....
Eng. and Hist. (Class.)	11	6	4	.....	5	3	.....	.....	6	4	.....	.....	8	.....	2	.....	49	.....	....
Greek and Hebrew	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	2	.....	....
Orientals	.....	.....	.....	.....	1	4	.....	.....	.....	1	.....	.....	2	5	.....	.....	13	6	2
Moderns	30	12	4	.....	27	11	4	3	12	8	4	.....	27	14	4	1	161	17	....
Eng. and Hist. (Mod.)	15	5	6	1	19	2	1	1	8	2	1	.....	5	1	4	.....	71	.....	....
Modern History	4	4	.....	.....	1	1	1	.....	5	2	1	.....	1	2	1	.....	23	17	....
Political Science	23	8	1	.....	20	8	.....	.....	15	4	2	.....	16	10	.....	.....	107	7	2
Commerce and Finance	8	9	1	.....	5	7	.....	.....	5	1	.....	.....	2	.....	.....	.....	38	.....	....
Philosophy	.....	.....	.....	.....	8	5	3	14	10	8	1	19	10	3	.....	6	87	20	8
Mathematics and Physics	24	14	1	.....	20	3	.....	.....	9	8	.....	.....	19	4	1	.....	103	4	1
Natural and Physical Sciences	22	10	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	37	.....	....
Physics	.....	.....	.....	.....	2	1	.....	.....	2	1	1	.....	2	.....	.....	.....	9	1	....
Biology	.....	.....	.....	.....	2	2	.....	.....	1	1	.....	.....	2	1	.....	.....	9	1	6
Geology and Mineralogy	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....	.....	2	.....	.....	.....	4	2	2
Chemistry and Mineralogy I.	.....	.....	.....	.....	5	7	.....	.....	5	.....	1	.....	4	1	1	.....	24	.....	....
Chemistry and Mineralogy II.	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	2	1	.....	.....	5	.....	....
Biol. and Phys. Sc.	.....	.....	.....	.....	1	3	.....	.....	.....	.....	.....	.....	1	2	.....	.....	7	.....	....
Physiol. and Bioch. Sc.	.....	.....	.....	.....	14	4	.....	.....	10	2	.....	.....	8	1	.....	.....	39	3	3
Household Science	19	9	5	.....	15	9	.....	.....	4	5	.....	.....	6	4	.....	.....	76	3	....
Physiol. and Household Sc.	.....	.....	.....	.....	.....	.....	.....	.....	3	3	.....	.....	2	.....	.....	.....	8	.....	....
Arts and Forestry	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	2	.....	....
Chemistry	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	3
Anatomy	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Total of courses taken	317	186	51	49	237	122	25	25	194	97	34	31	204	81	27	9	1,689	96	28
Total of students registered	308	179	48	49	230	119	25	24	188	95	34	31	202	79	25	9	.....	.....	....

(4) Registration of Women Students.

The women students registered in University College took the following courses:

Courses.	First Year.	Second Year.	Third Year.	Fourth Year.
General	40	28	32	20
Classics	3	2	.....	4
English and History (Cl.)	4	1	2	4
Classics and English and History	.....	.....	1	.....
English and History (Mod.)	15	12	7	4
Moderns	18	21	9	25
Moderns and English and History	2	3	.....	.....
Modern History	2	.....	.....	.....
Philosophy	.....	.....	.....	2
Mathematics and Physics	3	5	2	5
Science	6	.....	.....	.....
Physics	.....	.....	.....	1
Physiological and Biochemical Sciences	.....	1	.....	1
Biology	.....	.....	.....	2
Household Science	19	14	4	6
Physiology and Household Science	.....	.....	3	2
Totals	112	87	60	76

The women students registered in Victoria College took the following courses:

Courses.	First Year.	Second Year.	Third Year.	Fourth Year.
General	22	15	14	7
Moderns and English and History	11	9	7	12
Classics and English and History	.....	3	1	.....
Modern History	.....	1	.....	.....
Mathematics and Physics	1	1	2	1
Natural and Physical Sciences	2	1	.....	.....
Household Science	9	9	8	4
	45	39	32	24

Total	140
Occasional	4
	144

The women students registered in Trinity College took the following courses:

Courses.	First Year.	Second Year.	Third Year.	Fourth Year.
General	6	3	11	6
Modern Languages	2	3	4	4
English and History (Mod.)	5	.....	1	3
Modern History	.....	1	.....	1
Classics	1	.....	.....	1
Total	14	7	16	15

The women in the Faculty of Medicine were enrolled as follows:

First Year	9
Second Year	5
Third Year	4
Fourth Year	3
Fifth Year	3
	24

The women in the Faculty of Household Science took the following courses:

Department of Education	13
Occasionals	78
	91

The women in the Faculty of Education took the following courses:

Advanced Course	85
General Course	115
	200

APPENDIX C.

Results of Examinations.

(1) Faculty of Arts.
(2) Faculty of Medicine.
(3) Faculty of Applied Science.
(4) Faculty of Forestry.
(5) Faculty of Education.
(6) Faculty of Household Science.

RESULTS OF EXAMINATIONS IN MAY, 1914.

(1) Faculty of Arts.

Senior Matriculation.

Courses.	University.	Univ. Coll.	Vic. Coll.	Trin. Coll.	St. M. Coll.	Totals.	Passed.	Starred.	Failed.	Transfer'd.	Aegrotat.	Deferred.	Debarred.
General	2	45	25	5	19	96	24	41	31	....	....	....	29
Supplementals	....	6	3	....	....	9	6	3	....	....	....	....	2
Classics	....	....	....	....	1	1	....	1	....	....	....	1	1
Eng. and Hist. (Cl.	....	1	....	....	....	1	1	....	....	1	....	....	....
Greek and Hebrew	....	....	....	....	....	....	....	....	....	....	....	....	....
Moderns	....	3	2	3	....	8	2	5	1	....	....	2	4
English and History (Mod.)	....	2	....	....	....	2	1	1	....	....	....	....	1
Modern History	1	2	....	....	....	3	2	1	....	2	....	....	1
Political Science	....	5	1	....	....	6	2	3	1	3	....	1	2
Commerce and Finance	....	3	2	1	....	6	....	5	1	3	....	....	4
Math. and Phys.	....	4	1	1	....	6	2	3	1	3	....	....	2
Natural Science	....	1	....	....	....	1	....	1	....	....	....	....	....
Household Science	....	3	2	1	....	6	5	1	....	2	....	....	1
Arts and Forestry	....	....	....	....	....	....	....	....	....	....	....	....	....
Occasionals	18	1	....	....	....	19	17	2	....	....	....	....	....
Totals	21	76	36	11	20	164	62	67	35	14	....	4	47

First Year.

Courses.	University.	Univ. Coll.	Vic. Coll.	Trin. Coll.	St. M. Coll.	Totals.	Passed.	Starred.	Failed.	Transfer'd.	Aegrotat.	Deferred.	Debarred.
General	....	86	51	12	21	170	66	62	42	....	....	....	....
Supplementals	....	35	14	3	3	55	38	17	....	....	1	....	....
Classics	....	7	7	3	....	17	14	3	....	....	....	....	....
Eng. and Hist. (Class.)	....	10	6	4	....	20	16	4	....	3	....	....	....
Greek and Hebrew	....	1	....	....	....	1	1	....	....	....	....	....	....
Moderns	....	27	10	1	....	38	26	11	1	5	....	....	....
Eng. and Hist. (Mod.)	....	13	4	6	1	24	22	2	....	3	....	....	....
Modern History	....	2	3	....	....	5	5	....	....	....	....	....	....
Political Science	....	12	5	1	....	18	9	8	1	8	....	....	....
Commerce and Finance	....	4	6	....	....	10	8	2	....	3	....	....	....
Math. and Phys.	....	20	10	....	....	30	28	2	....	3	....	....	....
Natural Science	....	21	9	3	....	33	28	5	....	2	1	....	....
Household Science	....	16	7	4	....	27	18	7	2	5	....	2	2
Arts and Forestry	....	1	....	....	....	1	....	1	....	....	....	....	....
Occasionals	....	....	....	....	....	....	....	....	....	....	....	....	....
Totals	....	255	132	37	25	449	279	124	46	32	2	2	2

Second Year.

Courses.	University.	Univ. Coll.	Vic. Coll.	Trin. Coll.	St. Michael's College	Totals.	Passed.	Starred.	Failed.	Transfer'd.	Aegrotat.	Deferred.	Debarred.
General	....	74	43	15	4	136	48	61	27	....	2	....	12
Supplementals	....	30	12	11	2	55	30	25	....	....	....	....	....
Classics	....	8	3	....	....	11	4	6	1	....	....	2	2
Eng. and History (Classics)	....	5	3	....	....	8	2	6	....	1	1	....	....
Orientals	....	1	4	....	....	5	4	1	....	....	....	....	1
Greek and Hebrew	....	....	....	....	....	....	....	....	....	....	....	....	....
Moderns	....	27	9	4	3	43	23	19	1	2	1	7	7
Eng. and History (Mod.)	....	15	2	1	1	19	11	7	1	4	....	....	....
Modern History	....	1	1	1	....	3	1	1	1	....	....	....	....
Political Science	....	20	8	....	....	28	19	9	....	5	....	3	3
Commerce and Finance	....	5	7	....	....	12	4	5	3	1	....	....	....
Philosophy	....	8	5	3	14	30	13	13	4	2	....	3	3
Mathematics and Physics	....	20	3	....	....	23	15	5	3	....	....	3	3
Physics	....	2	1	....	....	3	2	1	....	....	....	....	....
Biology	....	2	2	....	....	4	3	1	....	....	....	....	....
Geology and Mineralogy	....	....	1	....	....	1	1	....	....	....	....	....	....
Chem. and Mineralogy	....	5	7	....	....	12	8	3	1	....	....	....	....
Bio. and Phys. Sciences	....	1	3	....	....	4	2	1	1	....	....	....	....
Phys. and Bioch. Sciences	....	13	4	....	....	17	15	....	2	....	....	....	....
Household Science	....	14	8	....	....	22	13	7	2	....	1	1	3
Phys. and Household Sc.	....	....	....	....	....	....	....	....	....	....	....	....	....
Arts and Forestry	....	1	....	....	....	1	....	1	....	....	....	....	1
Occasionals	20	7	....	1	....	28	6	2	....	....	....	....	....
Totals	20	259	126	36	24	465	224	174	47	15	5	9	35

Third Year.

Courses.	University.	Univ. Coll.	Vic. Coll.	Trin. Coll.	St. Michael's College.	Totals.	Passed.	Starred.	Failed.	Transfer'd.	Aegrotat.	Deferred.	Debarred.
General	....	86	43	22	13	164	88	53	23	....	1	....	13
Supplementals	....	34	3	3	3	43	28	15	....	....	....	....	2
Classics	....	5	3	1	....	9	8	1	....	....	2	....	2
Eng. and History (Classics)	....	4	3	....	....	7	7	....	....	....	....	....	....
Orientals	....	....	1	....	....	1	1	....	....	....	....	....	....
Greek and Hebrew	....	....	....	....	....	....	....	....	....	....	....	....	....
Moderns	....	10	8	4	....	22	15	6	1	....	....	1	2
Eng. and History (Mod.)	....	8	2	1	....	11	10	....	1	....	2	....	....
Modern History	....	5	2	1	....	8	8	....	....	....	....	....	1
Political Science	....	15	4	2	....	21	16	4	1	3	....	....	3
Commerce and Finance	....	5	1	....	....	6	3	2	1	....	1	1	1
Philosophy	....	10	8	1	17	36	18	16	2	....	2	5	9
Mathematics and Physics	....	9	8	....	....	17	14	1	2	....	....	....	....
Physics	....	1	1	1	....	3	3	....	....	....	....	....	....
Biology	....	1	1	....	....	2	2	....	....	....	....	....	....
Geology and Mineralogy	....	1	....	....	....	1	1	....	....	....	....	....	....
Chem. and Min. I.	....	5	....	1	....	6	4	2	....	....	....	....	....
Chem. and Min. II.	....	2	....	....	....	2	1	1	....	....	....	....	....
Bio. and Phys. Sciences	....	....	....	....	....	....	....	....	....	....	....	....	....
Phys. and Bioch. Sciences	....	10	2	....	....	12	8	4	....	....	1	2	2
Household Science	....	4	5	....	....	9	5	4	....	....	....	....	....
Phys. and Household Sciences	....	2	3	....	....	5	3	1	1	....	....	1	1
Arts and Forestry	....	....	....	....	....	....	....	....	....	....	....	....	....
Occasionals	....	7	....	....	....	7	4	3	....	....	....	....	....
Totals	....	224	98	37	33	392	247	113	32	3	9	10	36

Fourth Year.

Courses.	University.	Univ. Coll.	Vic. Coll.	Trin. Coll.	St. Michael's College.	Totals.	Passed.	Starred.	Failed.	Transferred.	Aegrotat.	Deferred.	Pass. Deg.
General	....	84	27	12	2	125	94	27	4	....	4	....	....
Classics	....	7	5	3	....	15	15	....	....	....	1	....	....
English and History(Class.)	....	8	....	2	....	10	9	....	1	....	....	....	....
Greek and Hebrew	....	....	1	....	....	1	1	....	....	....	....	....	....
Orientals	....	1	5	....	....	6	6	....	....	....	....	....	....
Moderns	....	26	14	4	1	45	45	....	....	....	....	....	3
English and History (Mod.)	....	5	1	4	....	10	9	1	....	....	....	....	1
Modern History	....	....	2	1	....	3	3	....	....	....	....	....	....
Political Science	....	16	10	....	....	26	24	2	....	....	3	....	....
Commerce and Finance	....	2	....	....	....	2	2	....	....	....	....	....	....
Philosophy	....	9	3	....	5	17	16	1	....	....	1	....	....
Mathem. and Physics — Mathematics	....	16	2	1	....	19	17	2	....	....	....	....	2
Mathem. and Physics — Physics	....	1	1	....	....	2	2	....	....	....	....	....	....
Mathem. and Physics — Astro. & Phys	....	2	1	....	....	3	3	....	....	....	....	....	....
Physics	....	2	....	....	....	2	2	....	....	....	....	....	....
Biology	....	2	1	....	....	3	3	....	....	....	....	....	....
Geology and Mineralogy	....	2	....	....	....	2	2	....	....	....	....	....	....
Chem. and Mineralogy, I.	....	4	1	1	....	6	5	1	....	....	....	....	2
Chem. and Mineralogy, II.	....	2	1	....	....	3	3	....	....	....	....	....	....
Bio. and Phys. Sciences	....	1	2	....	....	3	3	....	....	....	....	....	....
Physio. and Biochem. Sc	....	8	1	....	....	9	8	1	....	....	....	....	....
Household Science	....	6	4	....	....	10	6	1	3	....	....	1	....
Physio. and Household Sc.	....	2	....	....	....	2	2	....	....	....	....	....	....
Arts and Forestry	....	3	....	....	....	3	3	....	....	....	....	....	....
Occasionals	....	6	1	....	....	7	6	....	1	....	....	....	....
Totals	....	215	83	28	8	334	289	36	9	....	9	1	7

(2) Faculty of Medicine.

——	Passed with Honours.	Passed.	Starred.	Failed.
First Year	8	76	19	12
Second Year	3	68	12	4
Third Year	8	68	35	7
Fourth Year	6	79	25	.....
Fifth Year	6	68	12	.....

(3) Faculty of Applied Science.

——	Passed with Honours.	Passed.	Starred.	Failed.
First Year:				
Civil Engineering	38	66	14	6
Mining Engineering	3	4	1	1
Mechanical Engineering	3	13	6	1
Architecture	3	7	4	.....
Analytical and Applied Chemistry	1	4	2	.....
Chemical Engineering	1	3	2	.....
Electrical Engineering	15	33	10	3
Second Year:				
Civil Engineering	14	54	26	4
Mining Engineering	1	4	2	3
Mechanical Engineering	6	13	5	.....
Architecture	3	12	6	.....
Analytical and Applied Chemistry	2	3	1	.....
Chemical Engineering	3	5	2	.....
Electrical Engineering	10	28	10	8
Metallurgical Engineering	1	1	.....	.....
Third Year:				
Civil Engineering	42	84	22	4
Mining Engineering	7	16	4	.....
Mechanical Engineering	7	13	3	1
Architecture	4	10	5	.....
Analytical and Applied Chemistry	2	4	1	.....
Chemical Engineering	1	2	.....	.....
Electrical Engineering	6	33	16	3
Fourth Year:				
Civil Engineering	42	76	11	.....
Mining Engineering	6	16	4	2
Mechanical Engineering	10	18	2	.....
Architecture	3	5	1	.....
Analytical and Applied Chemistry	4	5	.....	.....
Chemical Engineering	3	6	1	.....
Electrical Engineering	18	31	4	.....

(4) Faculty of Forestry.

— —	Passed with Honours.	Honours Deferred.	Failed.
First Year	2	13	2
Second Year	3	6	.....
Third Year	2	3	2
Fourth Year	6	2	.....
Special Student	.....	1	.....
Forestry and Arts:			
First Year	.....	1	.....
Second Year	.....	1	.....
Fourth Year	1	.....	.....
Fifth Year	1	.....	.....
Sixth Year	1	.....	.....

(5) Faculty of Education.

——	Passed with Honours.	Passed.	Failed.
General Course	8	166	.....
Advanced Courses	14	93	.....
*Specialists	.....	*46	.....
Inspectors' Course	.....	1	.....
B. Pæd	.....	1	.....
D. Pæd	.....	1	.....
Number who failed in whole or part	.....	.....	19

* Many of these are included among those who passed in the General or Advanced Courses.

(6) Faculty of Household Science.

——	Passed.
Occasional Students	14

APPENDIX D.

Geographical Distribution of Students.

The geographical distribution of students is as follows:

FACULTY OF ARTS.

	University of Toronto.	University College.	Victoria College.	Trinity College.	St. Michael's College.	Total.
Ontario: (1) Province	365	461	322	90	67	1,305
(2) Toronto	231	441	117	32	31	852
Nova Scotia	10	5	1	.....	.....	16
New Brunswick	5	5	1	.....	2	13
Prince Edward Island	3	1	1	.....	.....	5
Quebec	10	6	2	4	.....	22
Manitoba	24	8	2	1	.....	35
Saskatchewan	21	27	16	2	.....	66
Alberta	10	13	14	3	.....	40
British Columbia	9	14	30	3	1	57
Yukon	.....	1	.....	.....	.....	1
United States	61	9	1	2	12	85
Elsewhere	8	36	25	7	1	77
Totals	757	1,027	532	144	114	2,574

SUMMARY.

	Faculty of Arts.	Faculty of Medicine.	Faculty of Applied Science.	Faculty of Education.	Faculty of Forestry.	Faculty of Household Science.	Totals.
Ontario:							
(1) Province	1,305	308	317	252	24	21	2,227
(2) Toronto	852	189	231	60	16	66	1,414
Nova Scotia	16	3	3	.....	.....	1	23
New Brunswick	13	.....	.....	.....	1	1	15
Prince Edward Island	5	1	.....	.....	.....	.....	6
Quebec	22	1	4	2	1	.....	30
Manitoba	35	3	5	.....	1	1	45
Saskatchewan	66	18	14	1	.....	.....	99
Alberta	40	10	11	4	3	.....	68
British Columbia	57	8	17	1	1	.....	84
Yukon	1	1	2	.....	.....	.....	4
United States	85	6	.....	.....	3	.....	94
Elsewhere	77	6	23	.....	1	1	108
Occasionals	.....	.....	69	.....	.....	.....	69
Total	2,574	623	627	320	51	91	4,286
Less registered in two Faculties							52
							4,234

The students from the Province of Ontario are distributed as follows:

County.	Faculty of Arts.	Faculty of Medicine.	Faculty of Applied Science.	Faculty of Education.	Faculty of Forestry.	Faculty of Household Science.	Totals.
Algoma	9	8	4	.....	.....	.....	21
Brant	31	7	8	4	2	.....	52
Bruce	28	11	10	5	1	.....	55
Carleton	53	1	6	3	3	.....	66
Dufferin	19	5	3	2	.....	.....	29
Dundas	11	1	.....	3	1	.....	16
Durham	27	5	12	3	1	.....	48
Elgin	30	8	4	8	.....	.....	50
Essex	30	13	9	6	.....	.....	58
Frontenac	5	.....	.....	.....	1	.....	6
Glengarry	1	.....	.....	.....	.....	.....	1
Grenville	10	2	.....	.....	1	.....	13
Grey	49	20	19	10	1	.....	99
Haldimand	20	6	3	2	1	.....	32
Haliburton	.....	.....	.....	.....	.....	.....	.....
Halton	29	12	6	3	.....	.....	50
Hastings	25	5	8	5	.....	.....	43
Huron	42	13	13	19	1	1	89
Kent	31	13	7	9	.....	2	62
Lambton	41	16	7	6	1	.....	71
Lanark	17	1	6	4	2	2	32
Leeds	18	4	2	1	.....	1	26
Lennox and Addington	7	.....	1	1	.....	1	10
Lincoln	29	4	8	3	1	1	46
Manitoulin	6	.....	1	.....	.....	.....	7
Middlesex	56	9	24	12	2	.....	103
Muskoka	8	2	4	.....	1	.....	15
Nipissing	19	5	10	2	.....	.....	36
Norfolk	11	4	3	3	.....	.....	21
Northumberland	22	3	4	7	.....	.....	36
Ontario	57	7	4	12	.....	1	81
Oxford	42	7	13	13	.....	.....	75
Parry Sound	3	1	.....	.....	.....	1	5
Peel	35	3	8	7	.....	.....	53
Perth	56	12	11	13	.....	3	95
Peterborough	35	5	12	4	1	1	58
Prescott	8	.....	1	2	.....	.....	11
Prince Edward	11	1	.....	1	.....	.....	13
Rainy River	2	.....	1	.....	1	.....	4
Renfrew	15	2	4	1	.....	.....	22
Russell	2	.....	1	.....	.....	.....	3
Simcoe	74	28	12	12	.....	3	129
Stormont	1	.....	1	2	.....	.....	4
Thunder Bay	14	4	2	.....	.....	.....	20
Victoria	22	4	1	6	.....	1	34
Waterloo	26	11	15	5	.....	1	58
Welland	28	5	7	8	.....	.....	48
Wellington	53	4	10	18	.....	.....	85
Wentworth	85	23	23	14	1	.....	146
York	52	13	9	13	1	2	90
Toronto	852	189	231	60	16	66	1,414
Totals	2,157	497	548	312	46	87	3,641

APPENDIX E.

Publications.

During the year 1913-14 the following volumes and papers were issued as University of Toronto Studies:

"Review of Historical Publications Relating to Canada," Vol. 18; edited by George M. Wrong, H. H. Langton and W. S. Wallace.

Philological Series, No. 2: "George Ticknor's Travels in Spain," edited by G. T. Northup.

Philological Series, Extra Volume: "Theban Ostraca," edited from the originals, with translations and plates, by Alan H. Gardiner, Sir Herbert Thompson and J. G. Milne.

Geological Series, No. 8: "A Cervalces Antler from the Toronto Interglacial," by B. A. Bensley.

Papers from the Chemical Laboratories, No. 99: "Hyperbasis," by Frank B. Kenrick.

Papers from the Chemical Laboratories, No. 100: "Electro-deposition of Metals," by W. Lash Miller.

Papers from the Chemical Laboratories, No. 101: "Determination of Free Cyanide in Cyanide Copper and Brass Baths," by J. T. Burt-Gerrans and W. Morison.

Papers from the Chemical Laboratories, No. 102: "The Rate of Dissociation of Nitrogen Peroxide," by W. L. Argo.

Papers from the Chemical Laboratories, No. 103: "Researches in Physical Chemistry," No. VII, by W. Lash Miller and F. B. Kenrick.

Papers from the Chemical Laboratories, No. 104: "Friedel and Craft's Reaction," by C. R. Rubidge and N. C. Qua.

Publications by Members of the Staff.

Faculty of Arts.

Allan, F. B.—"Friedel and Crafts' Reaction—The Preparation of Orthobenzoylbenzoic Acid and Benzophenone." In collaboration with C. R. Rubidge and N. C. Qua. (Journal of the American Chemical Society, 36, 732.)

Baker, A.—"Some Experiments in Connection with the Doctrine of Probability." (Paper read at the Annual Meeting of the Royal Society of Canada, Montreal, May 26-28, 1914.)

Brett, G. S.—"The Government of Man: An Introduction to Ethics and Politics." (Pp. XIV-318. Bell & Sons.)

"The Problem of Freedom after Aristotle." (Mind, N. S., 87, July, 1913.)

Chant, C. A.—"An Extraordinary Meteoric Display." (Journal of the Royal Astronomical Society of Canada, Vol. VII, pp. 145-215 and 438-447, 1913.)

"The Motion of the Stars." (Journal of the Royal Astronomical Society of Canada, Vol. VIII, pp. 21-35, 1914.)

Clawson, W. H.—"Percy's Reliques of Ancient English Poetry." (The Report of the Ontario Educational Association, 1913.)

Coleman, A. P.—"Guide-book to Toronto and Vicinity." (Geol. Congress, No. 6.)

"Geology of Toronto." (Canadian Institute Handbook.)

"Guide to Sudbury Region." (Geol. Congress, No. 7.)

"The Whiskey Lake Area, and the Massey Copper Mine Area." (Bureau of Mines, Ont., Vol. XXII, Part 1.)

Cooper, A. R.—"Contributions to the Life History of Proteocephalns ambloplites, Leidy." (Contributions to Canadian Biology, by the Dominion Government.)

Cudmore, S. A.—"Economics specially adapted to Canadian conditions": A general treatment of the subject in twenty lessons. (350 to 400 pages.) (Shaw Correspondence School, Toronto.)

Ellsworth, H. V.—"The crystal habit of Topaz from New Brunswick, Canada."

"A method of silvering crystal faces for giving improved reflections on the goniometer." (Mineralogical Magazine, December, 1913.)

Falconbridge, J. D.—"Fictitious or non-existing Payee of a Bill." (18, Journal Canadian Bankers' Association, Jan'y, 1911.)

"Blanks in Negotiable Instruments." (31, Canadian Law Times, 113, Feb'y, 1911; 18, Journal Canadian Bankers' Association, 156, April, 1911.)

"Prohibitions of Section 76 of the Bank Act." (32, Canadian Law Times, 872, Nov., 1912; 20, Journal Canadian Bankers' Association, 131, January, 1913.)

"The Law Merchant in Canada." (49, Canada Law Journal, 637, Nov., 1913.)

"Banking and Bills of Exchange." (2nd ed., Canada Law Book Co., Toronto, 1913.)

Fields, J. C.—"Proof of the Complementary Theorem." (London Mathematical Society.)

"Direct Derivation of the Complementary Theorem." (British Association, Birmingham.)

"To determine by rational operations whether an Algebraic curve is or is not reducible." (Royal Society of Canada.)

Fraser, W. H.—"French and Ontario Secondary Schools." (University of Toronto Monthly, April, 1914.)

Homer, Miss A.—"The Constitution of Kymuremi Acid." (The American Journal of Biological Chemistry, May, 1914.)

Hume, J. G.—"The Ethics of Speculation." (The Westminster, July, 1913.)

"Socialism." Contribution to Symposium. (Edited by J. Silvin, Sacramento, 1913.)

Huntsman, A. G.—"On the Origin of the Ascidian Mouth." (Proc. Royal Society B., Vol. 86, p. 454.)

"Protostigmata in Ascidians." (Proc. Royal Society B., Vol. 86, p. 440.)

"Invertebrates other than Insects and Mollusks." (Natural History of the Toronto Region, Toronto, 1913.)

Kartzke, G.—"Jahresbericht für germanische Philologie: Englische Sprache."

"English Annotations zu W. Paszkowski, Lesebuch für Ausländer."

Kenrick, F. B.—"Hyperbasia." (Trans. American Electrochem. Soc., Vol. 23, pp. 421-427.)

"Rate of Dissociation of Nitrogen Peroxide." In collaboration with W. L. Argo. (Journal Phys. Chem., Vol. 18, pp. 438-450.)

"The Sulphates of Barium." In collaboration with J. D. Barter. (Trans. Roy. Soc. Can. 111, 1913.)

"The Sulphates of Calcium." In collaboration with H. A. G. Willoughby. (Trans. Roy. Soc. Can., 111, 1913.)

"The Thickness of Surface Films of Solutions of Surface-active Substances." In collaboration with R. L. McGregor. (Trans. Roy. Soc. Can., 111, 1913.)

"The Critical Angle of Reflection from Solutions of Surface-active Substances." In collaboration with R. T. Elworthy. (Trans. Roy. Soc. Can., 111, 1913.)

"The Rate of Solution and Crystallization of Gypsum." In collaboration with W. J. Fawcett. (Trans. Roy. Soc. Can., 111, 1913.)

"The Absence of Supersaturation of Liquids in Liquids." In collaboration with W. J. Fawcett. (Trans. Roy. Soc. Can., 111, 1913.)

"The Tyndall Effect in Liquids." In collaboration with W. H. Martin. (Trans. Roy. Soc. Can., 111, 1913.)

Lefroy, A. H. F.—"Canada's Federal System, being a Treatise on Canadian Constitutional Law under the British North America Act."

"The Alberta and Great Waterways Railway Case." (Law Quarterly Review, Jan. 15th, 1913.)

"Points of Special Interest in Canada's Federal Constitution." (The Canadian Law Times, Oct., 1913.)

Lloyd, G. I. H.—"The Cutlery Trades." (Longmans, Green, & Co.)

McLennan, J. C.—"On the Relative Intensities of the Earth's Penetrating Radiation on Land and Sea." (Phil. Mag., Oct., 1912, p. 520); (Trans. Roy. Soc. of Can., 1912.)

"Measurements on the Earth's Penetrating Radiation with a Wulf Electrometer." In collaboration with A. R. McLeod. (Phil. Mag., Oct., 1913, p. 740.)

"On the Electrical Conductivity Imparted to Liquid Air by Alpha Rays." In collaboration with D. S. Keys. (Proc. British Association, 1912; Phil. Mag., Nov., 1913, p. 876.)

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